

# Motor Age

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N. S.  
Vol. II. No. 1

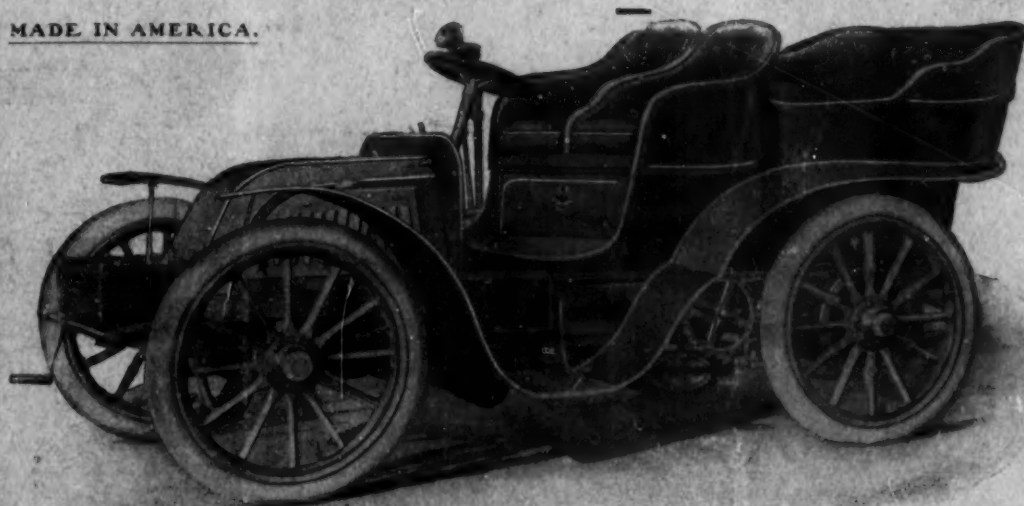
JULY 3, 1902

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Columbia Victoria, Mark XXXI

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**MUNGER  
AUTOMOBILE  
TIRE CO.**

**Trenton, N. J.**



Jan 23 '02

# Motor Age

WITH WHICH IS INCORPORATED  
CYCLE AGE

VOL. II. No. 1.

CHICAGO, JULY 3, 1902.

\$2.00 PER YEAR



SEARCHMONT TRUCK CONVERTED INTO A PRESS STAND AT THE PHILADELPHIA TESTS.

One day early last week a member of the Philadelphia council introduced an obnoxious ordinance. It provided for a speed limit of 5 miles an hour in the business section and 8 miles an hour outside. There were other objectionable features and as a result a number of local owners met, procured copies of the laws of other states and countries and drafted a counter ordinance. Subsequently there was another meeting of trade men, at which the ordinance last mentioned was approved. The Philadelphia club also took the same action. The next step was to give a demonstration for the benefit of members of the city council, which event took place on the afternoon of June 24. It was similar to that promoted by the New York club in the spring. At the meetings referred to E. P. Gallaher was appointed to represent

the trade interests, while Mr. Stoughton was selected to represent the club.

The energetic people who took hold of this matter also called upon and explained their objections to the daily newspaper people, the result being a general change of sentiment.

The tests referred to took place in Fairmount park. First Mr. Gallaher gave a demonstration. With him were Director English, George W. McCurdy, president of the council, and Henry G. Opdyke, of New York, official engineer of the Automobile Club of America, who accompanied President E. Scarrit, of the automobile association. First at 10 miles an hour, then at 20, then at 30, and lastly at 40 miles Mr. Gallaher sped his auto over the course.



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In connection with the demonstrations the automobilists paraded up Broad street at 5 miles an hour to show the aldermen what the proposed ordinance meant. Of course they were quickly convinced that such a proposal was ridiculous.

A stretch of 1-10 of a mile from a point above the concourse to the foot of the hill midway to Belmont avenue was laid out. From this stretch a body of Park guards carefully kept all wayfarers. The test was made under the auspices of the Automobile Club of Philadelphia. The trials made and their results are shown by the following table:

SUMMARY OF THE TEST.

	Weight.	Miles per hour.	Stopping dis- tance, feet.
Locomobile .....	1,200	27 1/2	71
Columbia .....	2,700	17 1/4	40 1/2
Oldsmobile .....	950	21	33
Autocar .....	1,400	19 1/2	59 2-3
Autocar .....	1,400	21 1/2	62 2-3
Winton .....	2,000	23 1/2	56 1/2
Mercedes .....	2,300	25 1/2	68 1-6
Packard .....	2,100	19 3/4	42 2-3
Columbia .....	2,700	12	12 1/2
Panhard .....	3,000	27 3/4	74
Mors .....	2,200	8	7 1/4
Mors .....	2,200	13	10 1/2
Mors .....	2,200	17 1/2	22
Mors .....	2,200	18 1/2	25 1-6
Mors .....	2,200	21 1/2	40
Mors .....	2,200	30	91 1/4
Electric runabout .....	1,900	14 1/2	30 1-3
Autocar, gasoline .....	1,400	24	50 1-5
Two horses .....		21 1/2	61
Four horses .....		17 1/2	62 2-3

After the tests a luncheon was held, at which Mr. Searritt, president of the A. A. A., was one of the speakers. President McCurdy, of the council, said that, although always a lover of the horse, he had learned much at the test that was a great surprise to him. "I was nonplussed," he said, "when I really saw how slow we were going when the rate was 10 miles an hour. The quick stop is marvelous. I consider that 8 or 10 miles is slow enough in the congested districts and 20 miles about right outside. To my mind, the whole question lies with the man who controls the machine."

The committee to which the council had referred the original ordinance met the next day and decided to recommend 7 miles an hour in the heart of the city, 10 miles in less busy thoroughfares and 15 miles in outlying territory within the city limits. A license for the operator and the machine will be required to be obtained each from the department of public safety, which has jurisdiction over the enforcement of all the provisions in the measure. It is also provided that all automobiles shall be inspected by a representative of the bureau of boiler inspection, and a certificate of satisfactory inspection issued before the machine can be run. The license fee for the operator will be \$2 for the first year and \$1 for every year thereafter. The fee for the automobile license is to be \$1 a year.

No operator must leave his vehicle without taking precautions to prevent accident and subdue the noise of the motor, and any one tampering with an automobile in the absence of its operator will be arrested for breach of the peace and disorderly conduct. A fine of \$10 will be levied for infraction of the speed law and failure to procure a license will be punished by a fine of \$50 for the first and \$75 for each succeeding offense. The amended ordinance having been recommended by the committee will now lie over for one week before final action is taken.

Much of the success of the work of the automobilists is due to E. B. Gallaher and W. D. Gash. The former took pains to take out a number of the city officials and post them thoroughly as to the possibilities of an automobile. Among the gentlemen thus initiated were George McCurdy, president of the council; Thomas Wiltbank,

chairman of the law committee, and Colonel Snowden, president of the park committee.

The Fournier-Searchmont Co. equipped its freight truck with automobile seats and made things comfortable for the newspaper men. The photograph shows it loaded with representatives of the Philadelphia dailies, the superintendent of the Searchmont factory and Messrs. Gilson and Fay, of the Hartford Rubber Works Co.

#### CHICAGO CLUB'S ENDURANCE RUN

Entries Close on Monday Next—Plans of the Committee for a Successful Event

Entries for the Chicago Automobile Club's 100 mile endurance test will close at 6 p. m. on July 7. The entry fee is \$10. By the payment of an additional \$5 an entry may be made up to midnight, July 9. Entries should be forwarded to R. H. Croninger, 243 Michigan avenue, Chicago.

The course is representative of western roads. It is practically the same as that over which most of the 100 mile cycle races are held. After leaving the club house the machines will proceed west on Jackson boulevard, north on Ashland to Washington, then west to Oak park to the Desplaines river. They will then turn north on the west side of the stream and continue through Desplaines, Wheeling and Libertyville. The road, as a rule, is good, but there is some of the hog-back variety, for which, however, compensation will be found in the beautiful run home over the Fort Sheridan road, through Lake Forest, Highland Park, Glencoe, Winnetka and Evanston.

Two weeks ago it came to the knowledge of the committee in charge that the authorities of some of the towns on the lake shore would interpose objections to the event. These gentlemen have all been seen, however, and have promised that if notified of the time of the arrival of the vehicles they will see to it that the streets are kept clear.

The committee has received up to date about twenty entries, but it is known that a great many owners expect to compete. It is not improbable that there will be between forty and fifty starters.

On Friday evening, the night before the run, there will be a meeting at the club house for the instruction of competitors and observers. This will take the form of an illustrated lecture, the illustrations showing various points on the course and the controls, of which there will be five.

#### New Panhard Racer for Mr. Whitney

New York, June 28.—Harry Payne Whitney has received a new 45-horsepower Panhard racer of 1902 model. It is a formidable looking machine with long bonnet and two small racing seats. His chauffeur, who was at work on it at Smith & Mabley's, told a MOTOR AGE man that Mr. Whitney was to enter it in all the big races. Fred Walsh, driver of Fournier's Mors, who stood near, spoke of the new comer's qualities with admiration. "That is the only racer I've seen that would be in it with us," he said.

#### Mr. and Mrs. Mabley Have Sailed

New York, June 25.—C. R. Mabley, of Smith & Mabley, and his bride sailed for Europe to-day. Among the floral gifts sent to the ship was an automobile from his employees.

#### Chicago Club Man Eastward Bound

Honore Palmer, one of Chicago's aldermen, a member of the Chicago club, left the club house at 10 o'clock on Thursday morning last, in a Robinson vehicle, bound for Boston. He intended to follow a route prepared by

MOTOR AGE for the Chicago to Buffalo tour last year and from Buffalo eastward to stick as closely as possible to the New York Central and Boston & Albany railroads. His first day's journey ended at La Porte and his second at Kendallville, Ind., about 175 miles from the start. Aside from some trouble with the pump his machine had been working satisfactorily up to that point. The roads of Indiana, during the early stage of the journey, were probably as fine as any to be found in the west.

#### Chicago Council Consults Chicago Club

After a conference with a committee appointed by the Chicago Automobile Club the Chicago automobile commission, of which City Electrician Ellicott is chairman, recommended to the council amendments of the ordinance relating to automobiles. The ordinance now provides that every automobile shall have at least two brakes, one of which shall be independent of the driving gear and either of which must bring the vehicle to a stop within 10 feet when traveling at the rate of 8 miles an hour. No machine must be left unattended with its motor running. The speed limit is 8 miles in the business part of the city and 12 miles on unfrequented streets. The operator's badge must be worn outside of the coat so that it may not be hidden either by accident or design. No alarm may be used, except a bell 4 inches in diameter.

#### Howard Machine to be Given Trial

New York, June 27.—Fred Dickinson, of the Munger Tire Co., who was at the MOTOR AGE office to-day, reports that the Howard steam carriage will be given a mile trial near Trenton next week. "The machine is no freak," said he. "It is fitted with a 10-horsepower engine. With the engine in its present shape it has already carried three of us a mile in 48 seconds."

#### Youngsters on New York to Chicago Tour

New York, June 28.—James McConnell, the 14-year-old son of C. P. McConnell, president of the Fuller Construction Co., of Chicago, started from this city at 9 o'clock with George Garrett, a 15-year-old boy, as his companion, for a run to Chicago. The Oldsmobile which they rode was stocked with provisions, a shotgun and a camera. They will journey by way of Syracuse, Rochester, Buffalo and Cleveland.

#### Failed to Equal Its Trial Trip

New York, June 26.—M. Lallou, of Paris, is in town negotiating with American capitalists to handle the Belgian Panhard. He has with him a picture of a 100-horsepower Janetsky, one of the contestants in the Paris-Vienna race. M. Lallou told a MOTOR AGE man to-day that this machine covered a kilometer in a private trial in 25.2-5 seconds, as against Serpollet's world's record of 29.4-5 seconds. The power is a combination of gasoline and electricity.

#### Cannot Consider Owen's Complaint

New York, June 28.—President Scarritt, of the A. A. A., says that the national association will probably not consider the complaint of Percy Owen against the L. I. A. C. for refusing to award him the cup in the unfinished middle weight gasoline class in last autumn's speed trials. Mr. Scarritt thinks that as the origin of the dispute antedated the formation of the A. A. A. the latter has no jurisdiction in the matter.

#### Walsh Believes He Could Have Beaten Record

New York, June 26.—Fred Walsh, driver of Fournier's record breaking Mors in the Staten Island trials, dropped in at the MOTOR AGE office to-day and talk nat-

urally turned to the events of that day: "I am sure that, had I been given a second or third trial, I could have beaten Fournier's 51.4-5," said he. "I may say I know I could have done so, for that morning, to test a timing machine of American invention, I made three trials and scored successively 52, 51.2-5 and 50 seconds. I had a full mile start, though, to get up my speed, and, to my surprise, the starter in the A. C. A. trials told us we could have no more start than was given the light machines, which was but a quarter of a mile. It requires a full mile to get a big fellow going well. Fournier had a mile start in the Ocean Parkway. I think I could go the mile over the same course in 48 seconds, for the machine is now faster than it ever was, and was, at that, hastily fixed up for the A. C. A. trials. It is now having a tonneau body put to it. The worst going in the Staten Island course was from the start up to the kilometer post, at the turn. After that the course was comparatively level and fast."

#### The Cleveland Race Programme

The race meet of the Cleveland Automobile Club will probably be held during the third week in September. It is announced, unofficially, that the following will constitute the programme: Pursuit race, special; 5 miles, open to all, motor bicycles; 2 miles, open to all, motor bicycles; 5 miles, open to all machines weighing less than 1,000 pounds, except bicycles and tricycles; 10 miles, open to all machines weighing less than 2,000 pounds; 1 mile, open to all electric machines; 1 mile, open to all machines for the circular track record; 5 miles, open to all touring cars weighing less than 2,500 pounds, carrying four passengers; 25 miles, open to all machines and all weights.

#### Answers to Correspondents

Ramona, Wis.—Editor MOTOR AGE.—Have you any books telling all the details about the building of a steam vehicle? I would like one describing how to put the boiler, engine, etc., in place. I can get the gear and body without any more help. One thing that puzzles me is how the engine is attached to the frame. I cannot see any lugs on the engines to attach to the body. Please tell me how. What do you know of the merits of the Balsover flash boiler described in the May 22 issue of the MOTOR AGE? I am getting up a flexible gear that will be all right but my machine will not be ready before fall.—Yours, etc., E. C. Wescott.

There is no book devoted solely to the construction of steam vehicles but works dealing with steam engineering can be had by applying to M. C. Henley & Co., New York. The Neustadt-Perry Co., or A. L. Dyke, of St. Louis, or the P. J. Dasey Co., 19 La Salle street, Chicago, can supply blue prints showing plan and elevation of steam carriages. All engines are provided with lugs by means of which they are attached to the frames. Nothing is known of the Balsover flash boiler beyond the material published. The address of the company is given in MOTOR AGE except that the word England should be added.

Chicago, Ill., Editor MOTOR AGE: On a four cycle, upright, two cylinder engine should the crank stand at 180 degrees?—M. H.

If the cranks stand at 180 the engine will get two consecutive explosions and two idle strokes. The vibration will be greater than if the connecting rods are on one crank. On the other hand, if the pistons are connected to one crank the engine will give an explosion every alternate stroke, thus distributing its power more uniformly.



# Motor Age

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The editor will be glad to receive communications for publication. They must be accompanied by the names and addresses of senders, which will not be used if request be made to that effect. Contributions will not be paid for unless accompanied by notice that payment is expected.

Subscription, Two Dollars a Year. - - Six Months, One Dollar

## WHAT AILS THE MOTOR LEAGUE?

Of what use is the American Motor League? Is it possible that an institution over which so many people displayed interest no longer ago than last March, has so soon outlived its usefulness? The new secretary is the first man to awake to the fact that, if the league is to serve any useful purpose, something must be done to make its existence and its objects known to the people who would be interested in supporting it. So far as we are aware not a sign of an effort has been made between the closing of the Chicago show and this date to increase the membership or make the institution useful.

The American Motor League should be made the great national body, the representative of the masses. The American Automobile Association rules the clubs. The individual is left to the care of the league. Unless he is permitted to contribute his mite to the good of the cause through the instrumentality of the league it will not be contributed. The power of the individual, small in itself but mighty in combination with that of the thousands of other individuals, should be fostered and made a power for good in the interest of the automobile.

How?

What is the Automobile Club of America doing? What is the American Automobile Association doing? What are the clubs all over the country doing? They are simply fighting the battle of the automobilist. They are preparing to build roads or secure legislation which will result in building them. They are seeing that the authorities are advised of the facts relative to the automobile whenever adverse legislation is threatened. And, above all, they are giving publicity to their work.

There has been formed in New York an institution whose design it is to secure the construction of a trans-continental highway. The plan is to so connect New York and San Francisco that an automobile, a bicycle or a buggy can be driven from one end of the country to the other, just as the same class of vehicles may be driven through European countries. In what better work could the American Motor League engage?

The automobile clubs and road improvement associations all over the country will be called upon to lend assistance. That means that the cost will fall on club

members and those people who are organized for work of the kind. And yet the unattached automobilist, the man who lives too far from a great city to be able to obtain the benefits of club life, is as vitally interested as anyone. More so than a vast majority, for it is certainly true that the further he resides from a great city the poorer are the roads in his neighborhood.

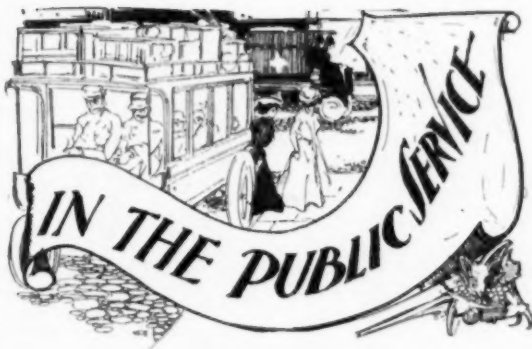
Men of this class can be secured as members of the American Motor League. With their assistance, given through the medium of the small amount they would contribute annually to the treasury and through the individual efforts they could exert as members of the organization, the league can do good work. Whether it can ever be raised to the dignity of a great institution without some more popular issue before it may be doubted. When the League of American Wheelmen forsook every other object and devoted its whole thought to the road question, the sport-loving element, of which it was largely composed, fell away until the league became a shadow of its former self. But automobilists are, as a rule, older and more substantial people; men who have reached a time of life when they look with greater interest on the more serious problems than did the younger men who formed the bone and sinew of the L. A. W. We have seen that other men, whose interest in the road question is certainly less than that of the automobilist, can be organized and induced to work with enthusiasm. With the proper effort the officers of the league can secure the same result, to their eternal credit.

## AMERICAN EXHIBIT IN ENGLAND.

The manufacturers' association has sent a circular letter to members suggesting that American makers make a joint display at the show to be held at the Agricultural Hall, London, during the last week of March next year. The members are requested to express opinions relative to the plan. It is suggested that members be allowed to send one carriage each, that a representative of the association take charge of the exhibit and that machines be shipped to London and back in one consignment, the expense to be borne by the exhibitors in proportion to the weight of their machines. While the plan seems feasible on its face unexpected obstacles may arise. To make a representative exhibit a larger space would be necessary and it is doubtful whether this could be obtained. English show promoters have no particular love for American exhibitors and in view of the fact that the prospectus of the show was issued nearly a month ago it is improbable that suitable space could be secured. In the event of failure this year the plan might be taken up with the English association and arrangements made for future exhibitions.

## A STUDY IN CONSTRUCTION.

When the French authorities, in their efforts to insure improvement in vehicles rather than the construction of racing monsters, announced a year ago that in future contests the weight of vehicles would be limited to about 2,000 pounds, many a man said that no machine of such weight could compete with those which took part in the Paris-Berlin race. After a lapse of only 12 months along comes a maker with a machine considerably smaller than most of the racers, weighing not more than two-thirds as much, and defeats the pick of the racing machines of the world. What does it mean? Simply that this man has attached to his well made vehicle the highest powered motor it is possible at the present stage of the industry to apply to a machine of its weight and has transmitted its power in the most economical manner known to the world of mechanics. Hence the description of the Renault, which will be forthcoming as soon as detailed reports of the contest reach this country, will be well worth studying.



**CAMDEN, N. J.**—Automobile transportation of passengers between Wenonah, Mullica Hill, Pitman Grove, Clayton, Woodbury and other towns in Gloucester county is the object of the Mobile Transportation Co. of New Jersey, which has been incorporated with a capital of \$100,000 by W. Stewart Dicks and F. Sherwin, of Mullica Hill; John A. Crawford, of New Brunswick, and Irving Turner and John Harris, of Camden. Harris said that the company would have automobiles in service in less than two weeks, and that eight round trips would be made every day from Mullica Hill and Pitman Grove to Woodbury.

**GUTHRIE, O. T.**—Browne Cornwellson, president of the American Loan & Trust Co.; M. Vandervoort and John DeBois, of this city, have secured a charter for the purpose of establishing an automobile line for the carrying of passengers and freight to and from the cities surrounding Guthrie. The capital stock is \$100,000, and the line is to be operated from this city with office here.

**CHICAGO, ILL.**—Automobiles will be offered to the public for hire within a few days by the American Motor Co. The conveyances will be rented by the day or hour, and will be handled by licensed chauffeurs, but persons possessing city licenses can lease the machines without the chauffeur.

**GUTHRIE, O. T.**—There has been a company organized and chartered to place a line of automobiles in this city and other cities of the territory for the purpose of carrying passengers and freight. The incorporators state they will be ready to do business in the near future. The company is known as the Consolidated Rapid Transit Co. of Guthrie. The purpose is to construct, equip, operate and maintain a line of automobiles here for the transportation of freight and passengers. The capital stock of the company is \$100,000, divided into 100 shares. The stock has all been subscribed. The principal place of business is Guthrie, and the incorporators are all residents of this city: Brown Cornwellson, president of the American Loan & Trust Co.; M. Vandervoort and John D. DeBois.

**SANTA ANA, CAL.**—The automobile owned by James Yoch and intended for use in carrying passengers between Santa Ana and Laguna Beach has been given a trial trip. The trial gave such satisfaction that a trip was made to Laguna with the big machine, which carried a full load of passengers.

**GALLIPOLIS, O.**—Walter Cushman has purchased two automobiles for public use in connection with the Womel-dorf livery stable. They will be  $7\frac{1}{2}$  horsepower each, two-seated, and finely finished. He expects to have them ready in about ten days.

**SACRAMENTO, CAL.**—It is stated that parties at Placerville have projected a new departure on the State road from that place to Lake Tahoe, it being planned to put on a passenger automobile that will carry six passengers leaving Placerville at 4 a. m., stopping for breakfast at Riverton, and reaching Tallac in time for dinner, the distance being about 75 miles. It may be questioned, however, whether a sufficient number of tourists will care to trust their necks to the care of the chauffeur over the precipitous mountain roads, where a slight turn in the wrong direction would send them to destruction down the precipitous side of the mountain or a breakage or failure of the brake to work would result in a runaway down the heavy grades and short turns of the narrow road.

**ROSEAU, MINN.**—J. E. Olson, of this city, has purchased a steam automobile which will carry twelve passengers, which will be placed on Olson's stage line between Stephen and Roseau. The automobile will be immediately put into service. Olson is trying this machine as an experiment, and if it does the work satisfactorily he intends to put in several other machines which will take the place of the horse stage line now being conducted between the two towns.

**SHELBY, O.**—There is a movement on foot at Shelby to establish an automobile coach line for the transportation

of passengers about the city. The coach will be constructed similar to a street car and will seat about fifteen people.

**ST. LOUIS, MO.**—The Interstate Transit Co., popularly known as the Bridge Auto Line, has something of a bonanza in the matter of transporting passengers across the bridge. It is given out that during May 114,000 passengers were carried, in addition to quite a good deal of profitable private business in the way of special autos for theater and pleasure parties. Since adding the four large busses propelled by steam the auto company is in a position to handle almost double that number, and judging from present returns over 200,000 people will have been carried during June. The daily average now is 3,940, with a tendency to increase.

**MUNCIE, IND.**—The Dunkirk Mobile Transit Co., which now operates between Dunkirk and Redkey and Dunkirk and Pennville, will extend its service to Muncie. The company has already ordered a large vehicle, which will be run between Dunkirk and Muncie. The trip from Dunkirk to Muncie has been made in an hour. Dunkirk is on the Pan-Handle line and the transit to Redkey affords connection with the L. E. & W. Pennville, which has no railroad, is given connection with the Pan-Handle at Dunkirk by the other automobile. Each of these seats twelve persons. The automobile running between Dunkirk and Muncie would make two trips per day.

**CHICAGO, ILL.**—A unique plan of bringing passengers to and from their docks has been entered into jointly between the Barry Muskegon line and the Barry Milwaukee line. They have established a free automobile service between the foot of Wabash avenue and the docks of their respective lines, which will be available for the use of their patrons between the hours of 4 and 8 p. m. every day.

**SAN FRANCISCO, CAL.**—The news has reached town that the trial and inspection automobile trip made day before yesterday by J. E. Sutton, George Schiff, C. J. Green, H. B. Lazarte, Theo. Schaut and Flint Chase resulted in the determination that an automobile line, running from Placerville to Lake Tahoe, a distance of sixty-five miles, shall be established forthwith. At present a stage line makes the trip to the lake twice a week, and the new horseless carriage company now forming expects to make the trip every day. This old Placerville road, along which the new automobile line will run, is one of the finest roads in California, and is noted both for its unsurpassed scenery and its early history. It follows the American river, passes many mountain lakes, crosses the summit of the Sierra Nevada and winds down along the Little Truckee river to Lake Tahoe. It was on this road that Horace Greeley was driven by Hank Monk, the trip made famous by Mark Twain.

**ELMIRA, N. Y.**—Fred Jones, a liveryman, has just returned from New York, where he bought a number of electric vehicles for the use of his patrons.

#### Miscellaneous Trade Brevities

Frank E. Mather and John H. Mears have secured the Chicago agency for the Murray gasoline car, made by the Church Mfg. Co., of Adrian, Mich., and have opened a store at 1303 Michigan avenue.

J. W. Wittmann, of Kansas City, is trying to get owners of vehicles there to take part in a 100-mile endurance run on the Fourth of July.

The exports of automobiles from the United States for May were valued at \$148,647. The value for 11 months, to the end of May, was \$817,378.

A report comes from Racine, Wis., that the Wisconsin Wheel Works will be joined by J. Overton Payne, of New York, in the establishment of a factory to manufacture automobiles and that Mr. Payne had engaged to invest about \$300,000.

The property of the Milwaukee Automobile Co., consisting of machinery, material and book accounts, is to be sold for cash to the highest bidder at 10 a. m. on July 8, at the company's factory.

F. C. Donald, president of the Chicago club, is anxiously awaiting the arrival of a Toledo gasoline vehicle, one of the first lot turned out of the factory. The first sample of this machine was exhibited at the Chicago show.

In the race meet of the Automobile Club de Namur-Luxembourg, Belgium, June 1 and 2, three motor bicycles fitted with the  $2\frac{1}{4}$ -horsepower Kelecom motors won first, third and sixth prizes among a field of ten starters. In the second race with flying start, among nine machines, the Kelecom came in second, third, fourth and fifth, being beaten only by a motor bicycle fitted with  $4\frac{1}{2}$  horsepower motor.



# RACING

The first prize in the Paris-Vienna race has been awarded to Marcel Renault. The result:

Marcel Renault,	Renault,	-	-	-	26h 11m
Henri Farman,	Panhard,	-	-	-	26h 31m
Edmond,	Darracq,	-	-	-	26h 40m
Maurice Farman,	Panhard,	-	-	-	26h 51m
Zborowski,	Mercedes,	-	-	-	26h 58m

The Paris-Vienna race across three countries, preparations for which have been agitating the European world of automobilists for the last 3 months, started last Thursday, outside Paris, and ended at the trotting track, Vienna, on Sunday. The details so far received are not such as to present more than a mere skeleton report, but they indicate a most extraordinary triumph for Renault, who, unless he changed his mind at the last moment, drove a car weighing hardly more than one-half as much as some of the heavy brigade and beat them on even terms.

The course is shown on the accompanying map. The start was at Champigny and the first day's race ended at Belfort, a distance of a little over 253 miles. Belfort is on the frontier between France and Germany, and thence, on Friday morning, the cars started for a day's promenade at the legal limit of speed to Bregenz. They proceeded to Delle, where they crossed the frontier from France into Switzerland; the second section was from Delle to Malettes-Delemont; the third section, Delemont to Basle; fourth section, Basle to Bruck; fifth section, Bruck to Zurich; sixth section, Zurich to Winterthur; seventh section, Winterthur to Sainte-Gall; eighth section, Sainte-Gall to Bregenz, which is a little over 4 miles on the Austrian side of the frontier. The reason

of the division of this part of the route into sections is the refusal of the Swiss authorities to grant permission for racing, and in order to prevent the competing cars from either racing along the Swiss roads or executing repairs during the day it was arranged that a certain fixed time should be allowed for each section, and any time beyond this will be added to the time total of the race from Paris to Vienna. The sections are about 20 miles in length. On Saturday the racing was resumed from Bregenz to Salzburg, and on Sunday was completed from Salzburg to Vienna.

It had been hoped, even up to the eleventh hour, that the Swiss authorities would allow the race to continue through Switzerland, but they refused. From Belfort on French soil to Bregenz the event was simply a procession, the police being instructed to watch the proceedings carefully. There are many who commend the decision of the Swiss, believing that the hilly and serpentine character of the roads would have been bound to lead to serious accident.

A tourist who covered the course in advance of the race carried to Paris a somewhat dismal account. At one point his machine had to plow its way through snow, which eventually became so deep that the traveler was forced to take a train. Fournier started over the route, intending to go the whole journey, and three drivers of Serpollets were sent out to size up the situation.

The entry list contained 208 names, the largest entry ever known in an automobile race. There were 155 in the Paris-Berlin last year. The entry fees amounted to about \$20,000. The Mors company made the first entry, securing positions 1 to 4. The last entry was made by Baron de Rothschild, who waited until it was impossible for any one to come after him before making the entry. His object was to follow the course with a vehicle equipped with medical and surgical appliances. The number of cars entered by the principal makers was as follows: Panhard, six; Mors, nine; Wolsley, three; Richard, ten; Mercedes, eight; Darracq, nine; Peugeot, seven; C. G. V., twelve; Renault, nine; Decauville, nine; Delahaye, three; Clement, nine; Dietrich, six; Gobron-Brillie, four; Serpollet, four; Durkott, three; Gladiator,





three. The Mercedes entries, except that of Vanderbilt, and Zborowski were withdrawn.

Extraordinary liberality was shown in the matter of prizes. The emperor of Austria and the president of France were prize givers, while tire companies offered no less than \$70,000 to users of their tires. Last year, for the Paris-Berlin race, they gave \$32,600. A distillery offered \$200 to the car accomplishing the best performance, using alcohol as fuel.

Tod Sloane was on the programme as the operator of a Gobron-Brillie. Drivers of Panhards were Rene de Knyff, Maurice Farman, Henri Farman, Leys, Andre Axi, Jarrott, Teste, Chauchard and Pinson. Mors cars were driven by Fournier, C. S. Rolls, Baron de Caters, Vanderbilt, Gabriel, Foxhall Keene and Augieres.

Beside four voituresses, somewhat similar in construction to those used in the Paris-Berlin race, the Renault people started three light vehicles. Unless they changed their plans it was one of these, driven by Marcel Renault, which finished ahead of all competitors. One of the others was to have been driven by Louis Renault and the third by Louvet. The machine has a four cylinder motor of 18 horsepower and thermo-siphon cooling device.

The start of the race occurred at half past three o'clock Thursday morning from Champigny, 12 miles east of Paris. The American starters were Keene and Vanderbilt. As was the case last year hundreds of automobiles and bicycles with colored lanterns left Paris at midnight to be present at the start.

The first men away were Girardot, Fournier, Edge and De Knyff. Keene left three-quarters of an hour later and Vanderbilt at 5:43. De Knyff was the first to reach Belfort, 253 miles, the end of the first stage, having averaged, according to the cable reports, over 62 miles an hour. The two Farman, Henri and Maurice, also driving Panhards, were the next arrivals, only about 3 minutes apart. They reported that Fournier, while leading, burst a tire near Chaumont when he had completed about three-fifths of the day's journey. Keene ran into a closed gate at a railroad crossing soon after the start, his machine being so damaged that he could not continue. C. S. Rolls, one of the English competitors, punctured a tire and was thrown out of the rig. Gabriel, while passing a railroad crossing, met the same fate as Keene. All of these accidents occurred within 20 miles of the start.

The event was resumed Friday morning at 4 o'clock, the destination being Bregenz. This was the part of the course over which the competitors were required to keep within the legal speed and De Knyff was again the first to finish. Fournier did not continue the journey. Of the 130 contestants who started from Paris 106 arrived at Belfort, all of whom except one started on the second stage.

Thus early in the event Renault had made an excellent showing, finishing sixth, behind machines of far greater weight and power.

The third day saw the finish of the race for the Gordon Bennett cup between teams of three Englishmen, Edge, Jarrott and Rolls, and three Frenchmen, Fournier, De Knyff and Girardot, which, as in former years, was made a part of the big event. After the first day the principal competitors were De Knyff, representing France, and Edge, with a Napier, representing England. The former was well in the lead. Twenty-five miles from Innsbruck, where the contest for the cup ended, Knyff's machine broke down and Edge won easily. Edge covered 210 kilometers, from Bregenz to Innsbruck, in 4 h. 38 m., and the total distance of 618 kilometers, including the first day from Paris to Belfort, in 10 h. 42 m.

The first arrival at Salzburg, the end of the third stage, was Baron de Forest, whose average speed for the day was 44½ miles per hour. Henri Farman, on a Mercedes, was the second arrival, according to one re-

port, having left much later and beaten de Forest's time 1 h. 19 m. Another report says Renault was second, having beaten Farman by 5 minutes on the day's run. Zborowski was fourth, Edmond, on a Darracq, fifth, and Pinson sixth. Then came Marcellin in a Darracq; Teste, in a Panhard; Savariaux, on a motorcycle; Heys, in a Panhard; Berteaux, in a light Panhard; Guillaume, in a Darracq voiturette; Koechlin, in a light Gobron, and Maurice Farman, in a Panhard.

The final result was in doubt. Renault was the first arrival, but was liable to disqualification on a technicality. The rules provided for a stop at Florisdorf, a small town near Vienna, after which the contestants were to proceed into the city at a more staid pace, finishing at the race course. The time set for this proceeding was 45 minutes, but Renault made no stop, finished the last stage in 18 minutes, and was, of course, the hero of the day; Zborowski, driving a Mercedes, was second; Maurice Farman (Panhard), third; Baras, fourth; Edmond, fifth, and Hemery, sixth.

After the race Renault explained that his failure to stop was due to a misunderstanding. Zborowski said that if, by chance, he should prove the winner, it would be due solely to good luck. He is William Morris Elliott Zborowski, a once well-known New Yorker, and a native of New Jersey.

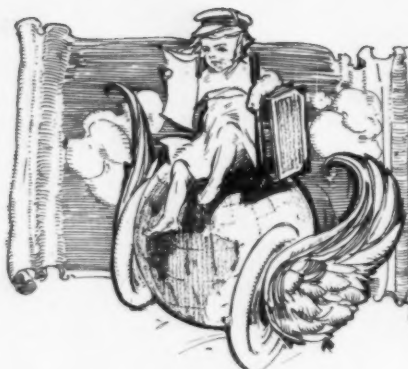
The final stages of the race were most exciting and most arduous. The distance from Bregenz to Salzburg, 226 miles, which was covered on Saturday, included the ascent of the Altberg. The railroad runs by the side of the road to an altitude of 3,600 feet above the sea. The railroad then dives through a tunnel and emerges on the other side of the mountain. The highway, however, continues its precipitous ascent over snows which in midsummer are still deep to a height of 5,000 feet, and drops down like a precipice on the other side. Over this the motor cars had to go, and it is not to be wondered at that there were several wrecks. The road was covered with stones for a hundred miles.

#### Baker's Trials Will be Made in Public

There is no truth, it appears, in the story that Walter C. Baker expects to make an attack on the record with his electric vehicle shortly after dawn, as has been reported. M. L. Goss, secretary and manager of the Baker Motor Vehicle Co., says the thing will be done in an entirely different style. "When the Baker racer is again put on the turf for speed records," he says, "it will not be in the shades of night, nor at the break of day. It will be an advertised event, duly authorized and with timers on hand with competent watches. We have looked the ground pretty well over in the neighborhood of Cleveland, but can find no road here of sufficient length for straightaway speed contests. When we get a record we want it official. I hope, nevertheless, at some future day to notify you where an opportunity may be had to see the machine go."

#### Two Trials of New Winton Racer

The Winton racing car was given two early morning trials last week on Clifton boulevard, Cleveland. Mr. Winton was accompanied by Chas. B. Shanks. Unfortunately the portion of the boulevard available was too short to make a full test of a mile possible and the machine, after only a short journey before the start, was sent seven-eighths of a mile. The distance was covered the first time at the rate of 1 m. 12.5 s. The second time it was favored by the wind. The distance was covered in 45.4-5 s., or at the rate of 51.1-5 s. for the full distance. It is expected that the machine will be given another trial one day this week.



# Matters of Commercial Interest



Detroit, Mich., June 30.—W. C. Rands is doing a splendid bicycle business in Tribune and Pierce machines, the sales of the former showing favorably with past seasons when the boom was on. One of his attractions is a Tribune motor cycle, one of the finest pieces of workmanship yet seen in the motor cycle line. The machine was put up by a Detroit man and has had the frame changed somewhat, but not sufficiently to lose the Tribune features. Every detail has been carried out with the same accuracy that marks the Tribune and the result is finish, proportion and design that has not been equaled so far as the writer is aware. The builder does not expect to make any more machines like it, although Mr. Rands states that the attention it has attracted would warrant doing so.

William Metzger is also doing a fine business and is keeping a large staff of salesmen busy in that line as well as at the automobile depot where he has the Olds, Winton and a number of other vehicles in stock. At the time the writer called seven Winton touring cars, one phaeton, four Olds and two steam wagons were standing in front of his establishment. The store itself was filled with vehicles and people, every one being busily engaged either in selling or looking over the stock. That Metzger is doing the business in the automobile line there can be no doubt, although the Peerless agent on the same street is doing a fine business and appears on the street frequently with a merry load of prospective purchasers.

## BUSINESS IN THE PHILIPPINES

### No Tax on Automobiles Except for Public Use—Factories Exempt for Two Years

Replying to a letter of inquiry addressed by the manufacturers' association to the governor, A. S. Crossfield, collector of internal revenue for the Philippine Islands, writes as follows:

"I do not find that the existing laws of the archipelago contain anything in relation to automobiles as such, nor do I know of any contemplated laws in relation thereto. As collector of internal revenue, I have classed automobiles as four-wheeled public carriages, when so used, and as such, they each pay an industrial tax annually of \$20, local currency (\$8.81 United States currency at the present rate of exchange), and a vehicle tax, \$12.00 local currency (\$5.29 United States currency at the present rate of exchange). If used only as a private carriage the industrial tax is not collected. In my capacity as city assessor and collector, I have licensed automobiles, under the heading in the city license ordinances, of 'four-wheeled carriages drawn by two horses,' at the fee of \$4.00, gold, per annum.

"An automobile factory would be exempt from industrial taxes for two years after it was established. After the expiration of that period, such factory would pay an industrial tax of \$150.00, local currency (\$66.08 United

States currency, at the present rate of exchange), per annum. The annual license fee of such a factory, which would be payable from the date of establishment, is \$25.00, United States currency, per annum.

"A dealer in automobiles, unless in connection with other licensed business upon which the industrial taxes have been paid, would pay a license fee of \$2.00, gold, per year, and an industrial tax of \$150.00, local currency (\$66.08 United States currency, at the present rate of exchange).

## EDISON'S BATTERY IS STILL EXPERIMENTAL

May be Extraordinary but Experts Say it Has Yet to be Demonstrated

The June issue of the International Motor Car, published by the International Motor Car Co., contains the following article, corroborating the statements made by MOTOR AGE relative to the Edison battery:

The newspaper reports and comments recently printed in regard to the electric storage battery said to have been perfected by Mr. Thomas A. Edison, and the results of two trial tests which have been made with vehicles equipped with his battery, having appeared simultaneously in all the leading papers throughout the country, have created renewed interest in this battery.

Like almost all newspaper reports, they would be important if true, but there is undoubtedly a basis of fact regarding certain of the claims made for this battery.

The writer recently overheard a conversation regarding the merits of the Edison battery, the discussion of the matter being participated in by three men, one of them the practical chemist of one of the largest and best known electric storage battery companies in this country, who has had experience not only here, but also in the manufacture of some of the leading batteries now made abroad; another was a practical electrical engineer of large experience in connection with automobile work; the other a practical manufacturer who has also had more or less experience in the automobile line.

The consensus of opinion of these gentlemen seemed to be that if the Edison battery possessed any merit beyond that of the lead batteries now on the market it was the one of indestructibility. As regards his mileage claims and capacity of the steel and nickel battery over that of the lead storage battery there is but little difference, Edison's claims being that he obtains one-horsepower an hour for 50 pounds of battery, which has been nearly duplicated by all of the leading lead battery makers in the country. The one claim, however, of indestructibility is, and was conceded by all concerned, to be a very important one, and one which would put the electric vehicle industry at the head of all the different types of automobiles now before the public.

The question of costs was also considered, and it was not believed that Edison could produce a battery of steel and nickel which could be sold at anything like the cost of the lead storage battery now on the market. The principal, in fact the only, material used in the construction of the storage battery as now made is chemically pure lead, which can be bought in open market at a price not to exceed 6 cents per pound, whereas the steel used in the Edison battery is a production that has to be specially prepared, together with the fact that it is cold rolled to an extremely thin gauge, and also that all of the active material of this battery is composed of nickel, and it could not be understood how the Edison battery could be produced at anything like the price charged for the storage batteries now before the public.

The newspaper reports state that the Edison battery was to be immediately tested for 5,000 miles to ascertain its

length of life, but this would not be an excessively hard test for the much decreed lead batteries now on the market. Many of them have a capacity far in excess of this mileage. One feature in connection with the Edison battery that would debar the use of this battery on all of the electric vehicles now on the market with the single exception of two, viz., the Waverley and the Baker, is the fact that the cells as prepared by Edison have a discharge capacity of but one volt, whereas the common lead cell has a discharge capacity of two volts, so that manufacturers now using an 80-volt battery would be obliged to design and make motors which can be used with a voltage not to exceed 50.

#### COMPRESSORS GREAT AND SMALL

##### Company Makes Everything from Hand Pumps to Big Power Plants

The Leather & Brass Mfg. Co., Auburn, N. Y., manufactures a large line of air compressors, for hand and power drives and of varying capacities from small shop compressors up to those with capacity of 70 cubic feet of air to 20 pounds pressure per minute. Beside the line of compressors, hand pumps for cycles and automobiles are made in different sizes and for private and shop use. In the automobile line the company calls particular attention to the compound automobile pump which is now being sold by Stevens & Co., 99 Chambers street, New York. It is practically two pumps in one, the larger barrel being used to inflate tires until the pressure reaches a point where pumping becomes laborious. Then the inner or smaller pump is used, and by it the pressure can be greatly increased with little effort. The company also carries a line of seamless steel tanks similar to those sold by Janney, Steinmetz & Co. Catalogues may be had illustrating all the pumps and compressors manufactured by the company.

#### MAKES CONCORD WOOD WHEELS

##### Standard Company has Prepared Itself to Supply Any Reasonable Demand

The Standard Wheel Co., Terre Haute, Ind., is the manufacturer of the well-known Concord wood wheel, extensively used by automobile makers, and which is illustrated in the advertising columns. The wheels have what is termed the artillery hub, made of metal and so constructed as to clamp the central or wood portion of the wheel securely in position. The metal hub is made in two parts, one carrying the box for the axle, the other used as a cap which clamps the wood portion in place. Two metal bands are forced over the wood hub after the latter is in position and thus the spokes are rigidly secured. The company has a capacity capable of looking after all the business that may be secured and will be pleased to correspond with manufacturers of automobiles or parts desirous of securing a wheel of reliable quality. The company has long made a specialty of wood wheels for automobiles.

#### Olds Sends Another Representative Abroad

New York, June 28.—C. E. Shaw, former superintendent of the test department of the Olds Motor Works, sailed on the Umbria to-day. Mr. Shaw will assist F. W. Peckham at the London branch. He called at MOTOR AGE's New York office yesterday and spoke with enthusiasm of the Oldsmobile prospects in England.

#### Pacific Coast's Only Manufacturer

San Francisco, Cal., June 27.—Yesterday A. E. Brooke Ridley, agent electric storage supplies, received the agency appointment for the Electric Vehicle Co. for California. B. L. Ryder, vice president and manager California Automobile Co., the only exclusive horseless vehicle manufactory on the Pacific coast, reports busi-

ness at full tilt—orders 60 days ahead of supplies, that capacity will be increased 100 per cent within the next 2 months, and that the company is just finishing a successful kerosene and distillate burner for automobiles.

#### Objects to Title of New Company

The National Vehicle Co., of Indianapolis, notes with natural concern the formation of another company under a somewhat similar name at Oshkosh, Wis., and suggests that something less likely to confuse be substituted. "It strikes us," says Mr. Hay, of the advertising department, "that there is liable to be considerable confusion owing to the similarity of names. We have been manufacturing National line of automobiles for some time past, and we certainly feel that the extensive advertising indulged in by our company entitles us to some protection in a trade way. We have made the name National known all over the world in connection with automobiles."

#### Finances of the Manufacturers' Association

The report of the treasurer of the National Association of Automobile Manufacturers from Nov. 10, 1900, the date of organization, to May 15, 1902, has just been made public. The association had no outstanding obligations and had a balance on hand of \$4,037.30. Its principle revenue had been derived from dues, amounting to \$2,425, and Chicago show receipts, amounting to \$4,841.85. A report prepared by the assistant secretary shows that at the date of organization the association had thirty-eight members. One year later it had eighty-five and on April 21 of this year 112, of whom sixty-seven were associate and forty-five active.

#### Will Build Factory if Town Builds Houses

The Ohio Automobile Co. has been seriously handicapped by the lack of accommodations for its workmen at Warren, O. It contemplates the addition of a brick building to its present factory, 250 by 60 feet, but has announced that it will do nothing in the matter until it is assured that proper accommodations for the men will be forthcoming. Mr. Packard has offered to join with other citizens in the formation of a stock company to build 50 or 100 houses to rent.

#### Porter Company Temporarily Restrained

Pending a hearing, which is to take place on July 9, the Porter Battery Co.'s plant at Waukegan, Ill., has been closed, Judge Schultis having granted a temporary injunction in the suit of the Electric Storage Battery Co. for alleged infringement of patent. This is the second case in which such a temporary injunction has been granted in favor of the Philadelphia company, the Buffalo Electric Vehicle Co. having been similarly restrained.

#### To Make Rochet-Schneiders—Perhaps

New York, June 28.—It is stated on good authority that before he left for Europe this week Ernest Cuenod made arrangements for the manufacture of the Rochet-Schneider by the Automobile Co. of America. It is further stated that a Rochet-Schneider machine has been taken apart at the factory and that work will be begun on the new vehicles as soon as M. Cuenod concludes the arrangements abroad.

PHILADELPHIA, PA.—Diamond Automobile Co., incorporated at Wilmington, Del.; \$125,000. Incorporators: James Bailey and John H. Parsons, both of Wilmington, Del., and Charles Burton, of Philadelphia.

KITTERY, ME.—Automobile Amusement Co., organized for the purpose of manufacturing automobiles, with \$500,000 capital stock, of which nothing is paid in. The officers are: President, Horace Mitchell, of Kittery; treasurer, A. M. Meloon, of New Castle.



## Running Gear of Three Point Support Type

BY L. B. ELLIOTT.

In view of the fact that many inquiries have been received relative to the three-point support type of running gear with semi-elliptical springs and wheel steering, briefly described in the issue of May 22, the subject is here treated in more elaborate form.

Figure 1 shows a side elevation of the running gear with outline of a suitable body. The frame proper is of  $3 \times 2\frac{1}{2} \times \frac{3}{4}$  steel angles, put together with  $\frac{3}{8}$  inch rivets. The rear part of the frame is supported upon semi-elliptic springs, attached to the frame by suspension links. The front ends of the rear springs are attached to the side angles by means of two links, one on each side of the spring edge,  $\frac{3}{8}$  inch pins passing through the vertical flanges of the angles, and the reinforcing plates inside and outside the flange of the angle, which are riveted to the same. These plates are 9-16 of an inch thick, the inside ones 9 inches long, and the outside ones 5 inches long. These plates form the bearings for the  $\frac{3}{8}$  inch pins, and also reinforce the angles at this point and help to distribute the load. The rear ends of the rear springs are attached to curved brackets by similar links. These brackets are of cast steel and riveted to the frames on the outer side of the vertical flanges of the angles, and are also made of angle section under the frame and riveted to both the vertical and horizontal flanges of the angles. The rear axle is connected to the secondary shaft outer bearing brackets by two chain adjusting stay rods,  $\frac{3}{4}$  of an inch diameter with turnbuckles. These turnbuckles should be at least 9 inches long and made from  $1\frac{1}{2}$  inch round steel, turned down for a portion of their length as shown. The longer parts of the stay rods should be threaded about 6 inches, so as to give a long bearing in their threaded part of the twin buckles. Only one lock nut should be used on each turnbuckle, so as to allow the stay rods to swivel slightly in the long threads. When the rear axle deviates from a horizontal plane. The reach rods which connect the front and rear axles are made

from  $1\frac{1}{2}$  inch steel tubing, 3-16 of an inch thick, with solid ends welded in, for the eyes and swivel ends. The rear ends of the reach rods are hinged to the rear axle, and the front ends of the rods are swiveled in bracket bearings attached to the front axle. These swivel ends have a threaded shoulder with lock nut outside the bearing brackets, to prevent the swivel parts from binding in the brackets. The front semi-elliptic spring is attached to the frame by means of a swivel bracket attached to the spring, and is carried between two angle irons, with  $\frac{3}{8}$  inch steel pin passing through angles and reinforcing plates as shown in Fig. 1. The side angle is broken away at this point in the drawing to more clearly show this construction.

Figure 2 shows the front elevation of the running gear and body, giving a clear conception of the arrangement of the front spring and reach rod connections; the swivel connection for the spring and reinforcing plates for the swivel pin bearing, and the secondary shaft, its bearings and differential gear and sprockets.

Figure 3 is a plan view of the running gear with body removed, showing the front and rear axles steering device, differential gear with sprocket attached for motor drive, on secondary shaft. The frame should have 3-16 inch corner brace plates, as shown at the rear of the frame, bent over and riveted to the side and rear angles. Brake and sprocket wheels are attached to the hubs of the rear wheels. These brake wheels are primarily intended for emergency use, the outside of the differential gear being used as a brake for ordinary use.

The steering wheel and post are carried by a casting which contains the worm gear mechanism, this bracket is bolted to two cross angles as shown, to render it absolutely rigid and without play. In constructing this type of frame it should be made exactly as shown; that is, of two side angles and the proper number of cross angles required, and end brace plates. The writer has seen frames made by using only two angles for sides and ends, and bent around to form the ends and spliced in the middle of the ends. This makes an expensive and then not satisfactory construction, as it is almost impossible to get the frame square and true and exactly the right length as well, and further it is not as stiff or rigid as a built up frame with angle corner connections, for end and midway cross angles. The rear springs, reach and stay rods do not show in the plan

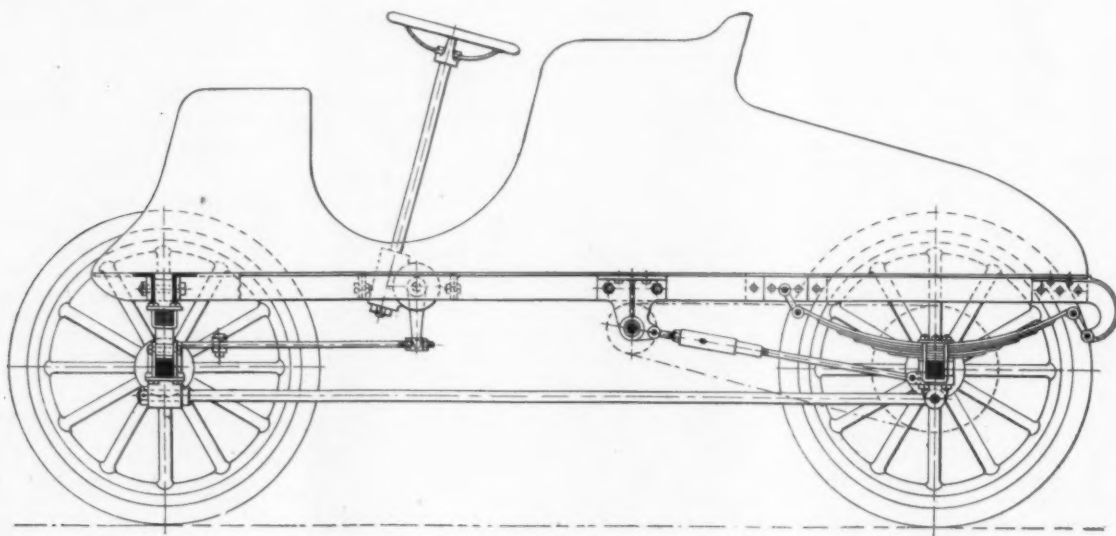


Fig. 1

view, as they are directly under the top flanges of the side angles of the frame.

The angle connections for assembling the frame are made from  $3\frac{1}{2} \times 3\frac{1}{2} \times \frac{3}{8}$  angles, with two  $\frac{3}{8}$  rivets in each flange, spaced  $1\frac{1}{2}$  from the back of the flange and  $1\frac{1}{2}$  inches center to center of rivets. These connection

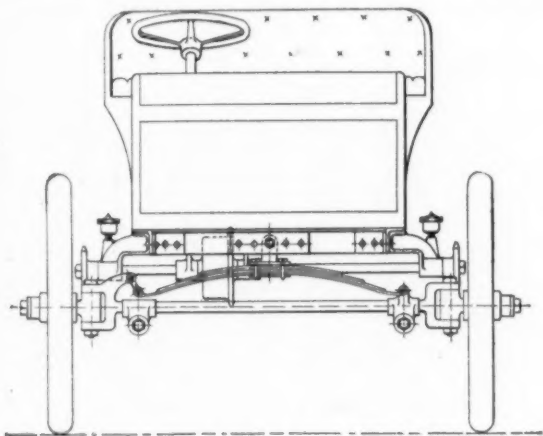


Fig. 2

angles should be  $2\frac{1}{2}$  inches deep and are all located under the horizontal flanges of the cross angles, with the exception of the rear cross angle or end piece, in which case they come on the back of the cross angle. The  $\frac{3}{8}$  rivets should be gauged on a center line placed  $1\frac{1}{2}$  inches from the back of the vertical flange or top of the horizontal one. Do not stagger them, with a view of strengthening or stiffening the construction. It is a mistaken and old fashioned idea, and further weakens the vertical flange more than when the rivets are all on one common center line.

This type of frame has many advantages over a four point support frame. There is no tendency whatever to distort the plane of the angle frame when one of the wheels, front or rear, strikes a raise or depression as is the case with a four-point frame, unless it is

made heavy enough to carry a locomotive running gear, which is not usually the case. It gives easier riding and less strain upon the machinery besides being a better mechanical construction. The four bearings for the secondary shaft are of cast steel. The two next to the differential gear are solid bearings with phosphor bronze bushings, and the two outer ones are adjustable ball bearings with dust protectors.

Appended hereto is a specification of the general dimensions of the running gear, giving most of the principal measurements required to construct the same:

Wheel base—84 inches, center to center.

Tread of wheels—54 inches, center to center.

Axles:  $1\frac{1}{2}$  inches—square ( $1\frac{1}{2}$  inch taper spindles.)

Wheels: wood—12— $1\frac{1}{2}$ -inch spokes—iron hubs.

Bearings—solid—phosphor bronze with center oil chamber.

Tires—3 or  $3\frac{1}{2}$  inch pneumatic—30 inches diameter.

Frame— $3 \times 2\frac{1}{2} \times \frac{3}{8}$  angles—108 inches long and 30 inches wide, inside side angles. Assembled with  $3\frac{1}{2} \times 3\frac{1}{2} \times \frac{3}{8}$  connection angles and  $\frac{3}{8}$  inch rivets.

Reach rods— $1\frac{1}{2} \times 3$ -16 inch steel tubing with solid end connections welded in.

Springs—rear— $1\frac{1}{2} \times 30$  inches—4  $1\frac{1}{2} \times \frac{1}{2}$  inch leaves; head leaf  $1\frac{1}{2} \times 5$ -16 inches. Front,  $1\frac{1}{2} \times 34$  inches. 4  $1\frac{1}{2} \times 5$ -16 inch leaves; head leaf— $1\frac{1}{2} \times \frac{3}{4}$  inches.

Secondary shaft— $1\frac{1}{2}$  inches diameter,  $1\frac{1}{2}$  inches on ends for sprockets.

Sprocket wheels—Front, 6 inch pitch diameter; rear, 15 inches pitch; diameter,  $1\frac{1}{2}$  inch pitch;  $\frac{3}{8}$  inch face (for roller chain.)

Steering—Worm and gear, steel worm and phosphor bronze gear.

Drum brake wheels attached to rear sprockets, 12 inches diameter inside flanges and  $1\frac{1}{2}$  inch face.

The customs authorities, who have allowed bicycles to be brought in by tourists for temporary use, not exceeding 3 months, have extended the rule so as to include automobiles, but formal entry will be required and a careful examination and appraisal made at the port of importation, and a bond with double the estimated duties will be given by the importer, conditional for due exportation of the automobile covered thereby within 3 months from date thereof.

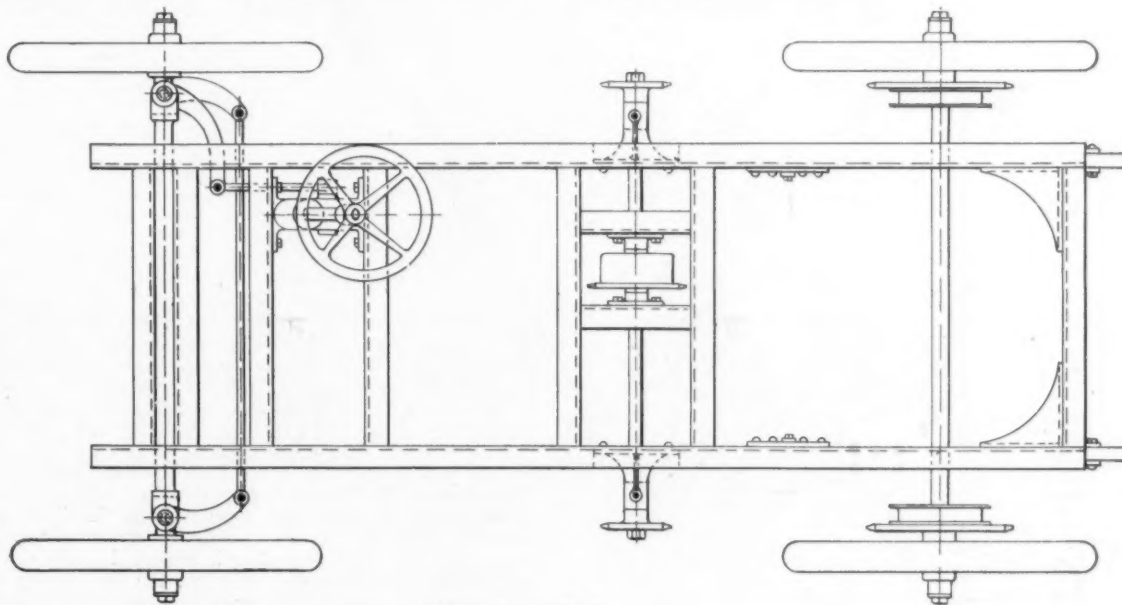


Fig. 3

## LOOKS LIKE VALUABLE PATENT

## Wheel Steering Devices Broadly Covered in Claims of H. P. Maxim and Harry Pope

Patent No. 702,448 has been granted to H. P. Maxim and H. M. Pope, a nephew of Col. Albert Pope, assignors to the Electric Vehicle Co. The interesting features is not so much the constructive details as the fact that the claims cover a style of construction now in common use and the date of application is sufficiently early to render the patent dangerous.

The device is a worm gear steering apparatus with the operating mechanism secured to the body and operatively connected with the steering knuckles by a system of rods, at least one of which is provided with ball and socket or other universal joints, so that the body may have free movement in a vertical direction without interference with the steering.

As described in the specifications the steering pillar is provided, at its lower end, with a segment of a skew or worm gear. Meshing with this and journaled in proper brackets is a corresponding sector, from which depends an arm to which is secured one end of the above described connecting rod, by which movement of the arm is transmitted to the steering knuckles. It will be readily seen that this device is practically identical in principle with nearly all the wheel steering devices now in use and the claims, of which there are seventeen, are sufficiently broad to cover any device in which the operating and backlock transmitting mechanism is mounted upon the body with a flexible connection between it and the steering knuckles.

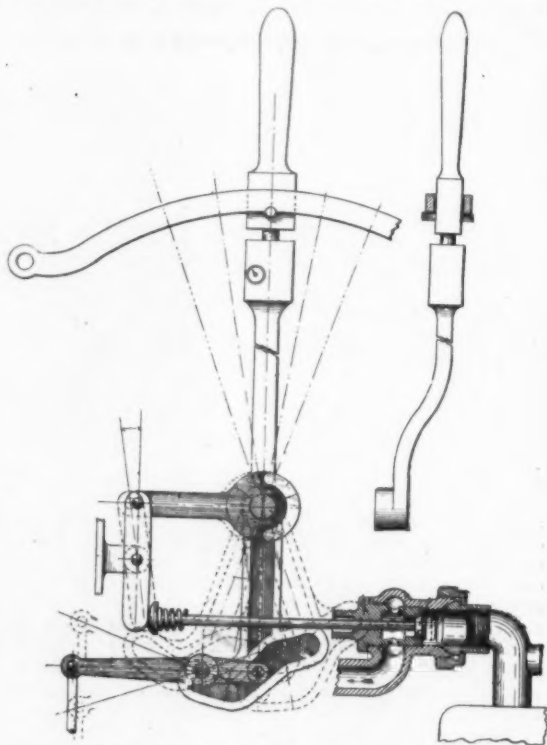
The claims most noticeable follow, but all are distinct and definite and cover the invention in both principle and detail:

13. In a vehicle, the combination of a spring-supported body, a steering shaft and back-lock transmitting mechanism mounted upon said body, a running gear frame, wheels pivotally mounted to oscillate with respect to said frame and positive, but flexible, connections between said back-lock transmitting mechanism and said wheels.

15. In a vehicle, the combination of a spring-supported body, a steering shaft and back-lock transmitting mechanism mounted upon said body, an axle relatively movable in a vertical plane, wheels pivotally mounted to oscillate with respect to the axle, a vertical arm secured to said back-lock transmitting mechanism and connections between said arm and said wheels including links and levers connected by joints capable of movement in different directions whereby positive action is secured with flexibility to accommodate the relative movements of the body and axle.

17. In a vehicle, the combination of an axle, a body spring supported with reference to the axle, a steering shaft having a skew gear at its lower end, bearings for said shaft mounted on said body, a gear sector also mounted on the body in

mesh with said skew gear, a substantially vertical arm connected with said gear sector, a substantially horizontal link connected to said arm by a joint having freedom for movement in different directions, a second arm also connected to said link by a joint having freedom of movement in different directions and substantially at right angles with said link, stud axes pivoted on said axle and operative connect-

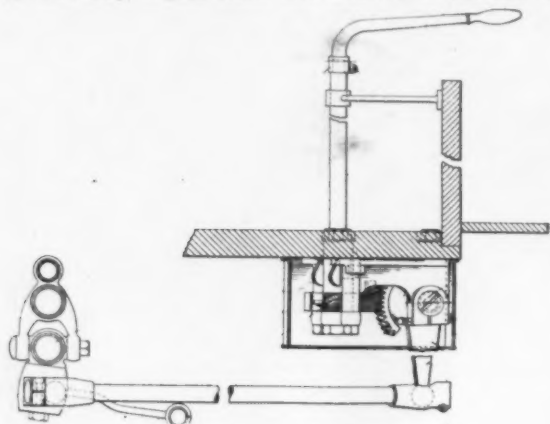


Dennenberg & Morgan's Controlling Mechanism.

tions between said second arm and said stud axes whereby said stud axes are moved together but through different angles.

The application was filed June 12, 1897, and the patent granted June 17, 1902.

No. 702,410, to O. F. Dannenberg and R. L. Morgan, of Toledo, O., assignors to American Bicycle Co., of Jersey City, N. J., covers a single lever system of control for steam vehicle engines. The throttle valve is normally held in closed position by a coil spring surrounding the stem and bearing against the stuffing box of the valve. The outer end of the stem engages with the free end of a lever that is pivoted to a stationary part of the vehicle. The other end of this lever is pivotally attached to an arm that is loosely mounted on the rotatable controller shaft by a slot that permits a longitudinal movement of the arm. The controller shaft is provided, near the arm, with a rocker adapted to engage with the ends of the arm when the shaft is rotated in either direction from its neutral position, as by the actuating lever. The rocker is so constructed, however, that a space is left between the ends thereof and the arm when the lever is in its neutral position, so that the shaft must be moved a predetermined distance before these parts engage. The reversing mechanism is controlled by a cam slot formed in an arm secured to the controller shaft. This cam slot comprises corresponding end or dwell portions and a central actuating portion, the dwell portions being so formed with relation to the center of the controller shaft that no motion is imparted to the reversing mechanism while the roller on the end of the rod acting as a connection between the cam and the reversing

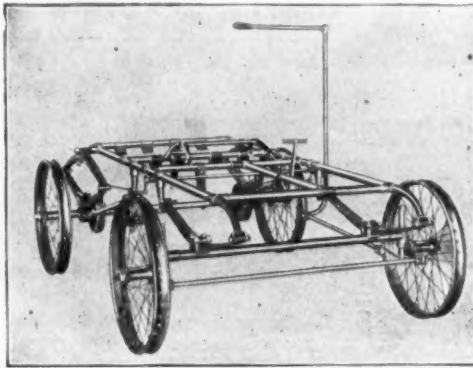


Maxim-Pope Steering Device.



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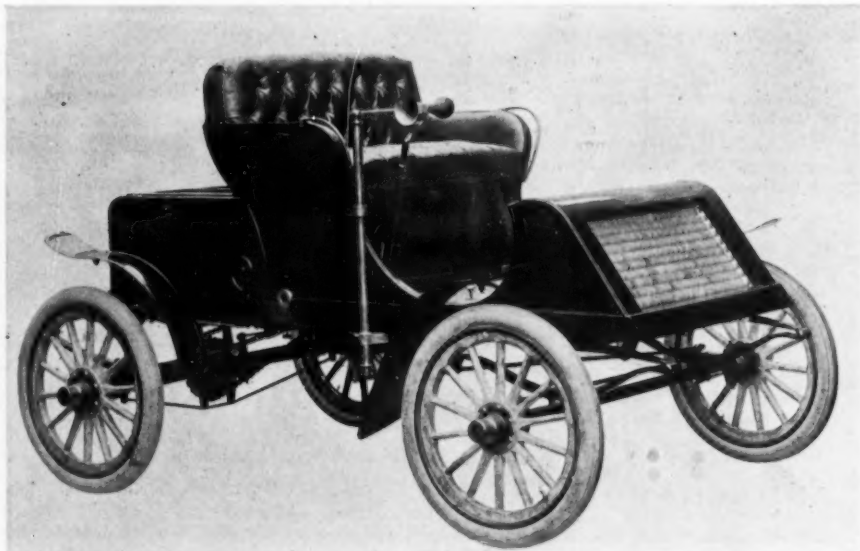
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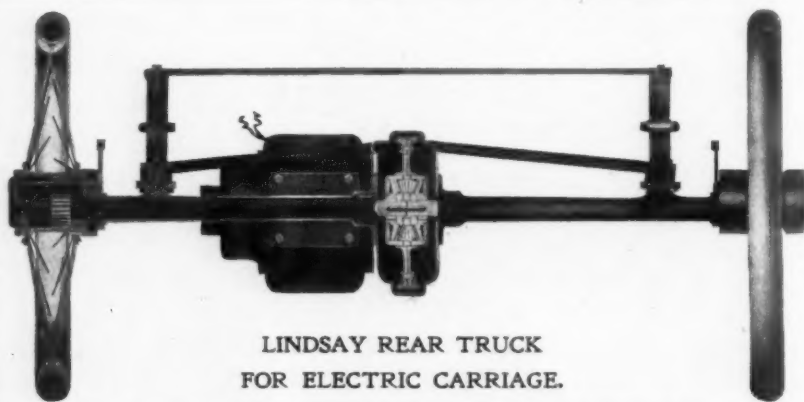
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Having got settled in our new factory, we are now ready to deliver to manufacturers who want the best of everything, Lindsay Running Gears complete, or rear



LINDSAY REAR TRUCK  
FOR ELECTRIC CARRIAGE.

axles with differentials only, as preferred. In explanation of the several advantages of the Lindsay Gear over any other type of gear made up to the present time. Notice particularly the manner of transmitting the power through an "Independent Shaft," a shaft

that is absolutely free from strain or friction of every kind, and has no other work to do than to transmit the power from the driver sprocket (or gear) to the wheel direct. The only mode of transmission yet produced by any maker in the world that gets absolutely none of the end thrust. The wheel is free to play backward and forward on its roller bearings on the spindle of the tubular frame; which positively relieves the shaft from all weight and friction and leaves it free to perform its function of driving the wheel without losing any valuable power. Think this over! Power costs money. We save it for you.

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LINDSAY REAR TRUCK  
FOR GASOLINE RUNABOUT WAGON

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links is seated therein. When the actuating lever is moved in either its forward or reversing directions the links in the valve rods are immediately moved in the proper positions, through the action of the cam. As there is a space between the rocker and the arm above described the throttle valve is not opened till the links are moved to a point assuring the starting of the engine in the proper direction.

No. 702,750, to Frederic Thourot, of New York, N. Y. The subject of this patent is a cooling device for internal combustion motors. The device is merely a screened air inlet to be attached to the side of the crank case so that cool air may be drawn into and expelled from the case by the action of the piston, and the main use of the attachment is to prevent the expulsion of oil with the outrush of air and the admission of dust when air is drawn in.

No. 702,775, to Ernest Catchpool, of Deal, England, is devoted to a protecting device for driving chains. The apparatus is simple, being merely a number of plates adapted to be sprung on the chain so as to cover the outside of the openings between the blocks or rollers. A number of similar schemes have been tried but found of questionable utility as, as while they no doubt in a measure prevented dirt from falling into the chain while passing across the upper run, they acted with equal force in preventing what might fall into or on the chain while on the under run from getting out again.

No. 702,793, to C. H. O. Hamann, of Bergdorf, Germany, covers a speed changing device which, while applicable to automobiles, is mainly for use with heavy engines.

No. 702,038, to Elihu Thomson, of Swampscott, Mass., is devoted to a system of speed regulation for motors wherein the admission of steam or gas to the cylinder is controlled by poppet-valves. The device comprises a laterally movable cam with taper face whereby the duration of opening of the valve may be governed either by the operator or by an automatic governor.

#### Exports of Cycles and Automobiles

Washington, D. C., June 26.—The figures showing the exports of bicycles and parts for the week just ended from New York are as follows:

Antwerp—Bicycle material, thirty-five packages, \$1,186.  
Amsterdam—Bicycles, sixteen packages, \$450.  
Brazil—Velocipedes, three cases, \$71.  
British Australia—Bicycles and material, nine packages, \$1,024.  
British East Indies—Bicycle and material, sixty cases, \$1,692.  
British Guiana—Bicycle, five packages, \$279.  
Bremerhaven—Bicycles, two cases, \$46.  
Bremen—Bicycles, two crates, \$80.  
British Possessions in Africa—Bicycles and material, 158 packages, \$4,884; velocipedes, two packages, \$50.  
Bucharest—Bicycle material, three packages, \$33.  
British West Indies—Velocipedes, four packages, \$63; bicycles, seventy-two cases, \$1,977.  
China—Bicycles and material, fifteen cases, \$494.  
Chili—Bicycles, five cases, \$179.  
Cuba—Bicycles, four cases, \$485; velocipedes, one case, \$277.

Danish West Indies—Bicycles and parts, three packages, \$65.

Genoa—Bicycle material, thirty-seven packages, \$1,323; bicycles, six cases, \$127.

Ghent—Bicycles, one case, \$65.

Glasgow—Bicycles, three cases, \$90.

Hamburg—Bicycles, fifty-three packages, \$1,325.

Havre—Bicycle, seventy-five packages, \$987; bicycles, fifty-eight packages, \$2,735.

Hayti—Bicycles, two cases, \$17.

Hong Kong—Velocipedes, three packages, \$100.

Japan—Bicycles and material, forty-three cases, \$2,069.

Korea—Bicycles and material, four packages, \$150.

London—Bicycles, 109 packages, \$1,885; bicycle material, thirty-three packages, \$1,162.

Liverpool—Bicycles, ninety-seven packages, \$2,216; bicycle material, five packages, \$223.

Malta—Bicycles and parts, nine cases, \$200.

Mexico—Bicycles and material, two packages, \$25; velocipedes, six packages, \$153.

New Zealand—Bicycles and material, 177 packages, \$5,763; velocipedes, eight packages, \$52.

Philippine Islands—Bicycles and material, twenty-six cases, \$2,675.

Rotterdam—Bicycles, twelve cases, \$220; bicycle material, eighteen cases, \$749.

Stockholm—Bicycles, fifty-one packages, \$770.

Southampton—Bicycle material, twelve packages, \$1,427.

Turin—Bicycles and parts, two packages, \$185.

United States of Colombia—Bicycle, two packages, \$45.

Venezuela—Velocipedes, one package, \$16.

Wasa—Bicycles, four packages, \$90.

Washington, D. C., June 26.—The figures showing the exports of automobiles and parts of for the week just ended from the port of New York are as follows:

Brussels—Auto vehicles, parts, four cases, \$525.

Havre—Motor vehicles, parts, one case, \$10,000.

#### Gossip of the Trade and Sport

It is reported that representatives of Charles M. Schwab, James Brady and Max Fleischman were in Newton, N. J., recently looking for a site upon which to erect a factory for the manufacture of automobiles.

Henry J. Hall, jr., 51 Front street, New York, a several times winner of the Irvington-Milburn bicycle race, is now handling the Visco oils and greases for automobiles.

It is reported in New York that E. E. Britton, one of the owners of the Fournier record-breaking car, is planning to establish an automobile factory in the west.

Angus Sinclair, editor of the Automobile Magazine, is to sail for Europe on the St. Louis on Wednesday.

William Rockefeller has ordered a four-seated Packard, which is to be delivered this week.

The Berkshire Automobile Club of Pittsfield, Mass., has just elected a new set of officers. Dr. Frank W. Brondow is now president; Samuel Colt, vice president; L. A. Merchant, secretary and treasurer. The club starts off with about 30 members. It will soon build a fine station and club house combined.

Elwood Haynes, of Kokomo, stated to a MOTOR AGE man recently that the Haynes-Apperson Co. would make entries for the Chicago endurance run and that probably both he and his brother would be among the operators.



"I think I have set a new style in having—"



"My tiger behind—"



"An automobile."

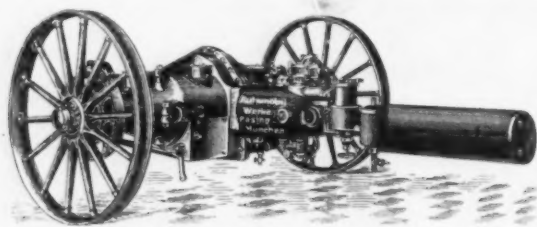


## Automobilism in Prussia. Extract from Consular Report

BY FRANK H. MASON, OF BERLIN.

The Annual Pan-German Motor-Carriage Exposition was opened at Berlin on the 15th and closed on the 26th of May. The exhibition of this year has been somewhat inadequately housed in the premises of the Permanent Motor-Carriage Association—a series of low-arched showrooms under the elevated railway viaduct on Georgen strasse.

The exposition, while highly interesting to makers and experts, has been lacking in interest as a popular entertainment. The public took but a languid interest in the display. The list of exhibitors includes 105 firms, all German except two. The United States was represented by one article—a polishing powder for metals—exhibited by the American Trading Co., of Berlin. All the great German manufacturers of motor carriages—Benz, Opal, Dürkopp, Daimler, Kuhlstein, the factories at Eisenach, Leipzig, Nuremberg, and Marienfelde—were represented and the display included about eighty vehicles. German builders have made great progress in automobile construction since 1899. Not only are the carriages lighter, more shapely and elegant, but they conform more closely in model and relation of parts to modern standards of construction, as typified by the leading French machines. Of the sixty or more vehicles on exhibition, at least five-sixths were of the general type of the Mors and Panhard racing machines. Two makers—the Benz Motor Co., of Mannheim, and the Dietrich Co., of Niederbronn, in Alsace—still utilize a belt and pulleys. The one real novelty in this line is the device of Professor Klingenberg, exhibited by the Motor Fabrik Pasig-Munich, in which the motor, inclosed in a dust-proof sheath, rests upon and is geared directly to the rear axle of the carriage. The axle is in two sections, connected at the center by a complicated device, the details of which are shown in the foregoing cut, and which provide for differential motion as between the two hinder wheels and couplings for different rates of speed. The idea seems to have been adapted from a tricycle of French origin, and its application to a motor carriage is ingenious and interesting. The motor works directly on the driving shaft with the maximum economy of power; the working parts are not only securely in-



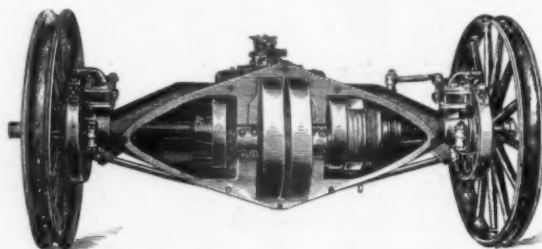
Klingenberg Motor, Enclosed.

closed and protected from mud and dust, but work in a bath of oil, which secures perfect lubrication. On the other hand, it has the disadvantage that the motor rests on the axle without springs.

Three years ago few carriages were provided with ball bearings; now they are universal and of unsurpassed quality. The puffing noise and vibration formerly so disagreeably incident to hydrocarbon motors, although not yet overcome, has been greatly reduced. The whole sub-

ject of electrical igniters for motors has made great progress and the exhibition included several kinds which furnish an effective and reliable spark with a minimum consumption of current. Some of these are fed from storage batteries; in other cases the current is generated by a Runkorff coil or a small dynamo carried in the automobile and driven from the axle.

Automobilism is still in the development stage in Germany. Sales have been slow and the number of motor carriages in actual use is relatively small. The Deutscher Automobil Verband, which lent its aid to the recent exposition, comprises the sixteen clubs, which have an aggregate membership of about 900 persons and collectively include the automobile public of Germany.



Section Showing Arrangement of Parts.

There has never been any such surrender of the public streets, parks and country roads to motor carriages as has been seen in France, or even in Italy and Austria. The speed permitted within municipal limits is limited to 12 kilometers (7.45 miles) an hour. The result of the Paris-Berlin race last year was to deepen and confirm the conviction of German municipalities that the automobile is an intruder to be handled with firmness and discretion.

An American steam carriage built by the Locomobile company was brought to Berlin in the winter of 1901 and attracted much favorable attention. But when the new code of regulations went into effect in April, 1901, a special license became necessary, and it was found that the Locomobile collided at eight points with the Prussian law governing the construction and use of steam boilers. This comprehensive statute was enacted before the motor carriage had become a factor in transportation. It prescribes with elaborate precision every detail in the construction and use of steam boilers. Having been made for stationary and locomotive engines, these specifications naturally could not be adapted, unchanged, to automobiles; and, as a consequence, the steam carriage, although licensed in Austria, Saxony and Bavaria, has been thus far practically excluded from Prussia. During the past 6 months, however, a movement has been carried through by which the statute has been amended. Under the revised conditions the Locomobile has been granted a concession—not yet officially issued—to be sold and used throughout Germany upon condition that three trifling modifications shall be made. One of these requires that a certain tube shall be 15 instead of 10 millimeters in caliber; the second relates to the outer shell of the boiler; and the third requires the water-gauge cocks to be pierced in front so that any stoppage from dirt or boiler scale can be detected and removed. With these slight and inexpensive changes the Locomobile will be admitted to what is practically a virgin field for steam vehicles, and when converted—as it easily can be by a slight change in its gasoline burner, so as to adapt it to alcohol as a fuel—it success would seem practically assured. The whole influence of the German government is directed toward the substitution of crude alcohol for petroleum products wherever possible, and makers of motor carriages and other machinery for this country should take that fact into account.

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FOR WIRE  
OR WOOD WHEELS



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UP TO 4 IN. CROSS SECTION

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For Steam Vehicles  
Improved—Perfect in Every Way



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**200 MILES  
ON ONE CHARGE  
OF GASOLINE**

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# THE CYCLE AGE

Seattle, Wash., cyclists enjoy the advantages of a splendid system of cycle paths, which are in excellent shape and during the best part of the season will be simply irreproachable. The Good Roads Club is putting them into perfect trim wherever there is the least bit of excuse for changing anything.

By far the best riding is on the Lake path. There is probably no more delightful cinder path in the United States. On this stretch of some half dozen miles there is scarcely a grade worthy the name, and there are some fine bits of scenery. While the paths south of Madison street require a little more exertion to negotiate the effort is well repaid by really grand views of the water, woodland and mountains.

The Magnolia Bluff cinder path never was in more perfect order than it is this year, and the coasting from the post site at Fort Lawton to Interbay is most enjoyable. The path is as smooth as a floor. The path runs south through dense forest growth, making many graceful curves, follows the brink of a large canyon and then emerges into the open at the brink of a high bluff, from whence a most magnificent view of the Sound and the Olympic mountains is obtained. The course of the cinder path follows the curvature of the high bluff for a considerable distance and at one point a long detour into the woods has to be made to get around a deep canyon. Almost a complete loop is made, but no grades

are encountered. The entire circuit is through almost virgin woods, affording some very entrancing views of sylvan retreats, pretty glades, great trees, great banks of ferns, deep shadows and anything that goes to make a plunge in the forest inviting and interesting. To make the path still more inviting the Good Roads Club has constructed several turn-outs along the way, so arranged that, while resting, cyclists can feast their eyes on the most charming of views.

On the path leading around the east shore of Lake Union and on to Lake Washington there are so many beauty spots that it is difficult to choose between them. The riding is easy for the entire course to the lake and the path makes a hundred turns and twists that add to the charm of exercise on the wheel. The Half Way House is the central resting point on the course. It is embowered in deep green at the head of a canyon, one of a half dozen that are encircled in turn on the first half of the course to the lake. The trip as far as the Half Way House is made by nearly everyone who goes out on the Lake Washington path. The distance is about five miles from the center of business.

## TAYLOR PLAYS WITH WORLD'S CHAMPION

Ellegaard, After Winning Title at Rome, Made Look Like a Novice in Paris.

Paris, June 20.—(Special Correspondence.)—Ellegaard was king on Sunday night. Thursday he was a dispossessed monarch, having lost his crown to the unconquerable Taylor, who simply flew away with it, after one of the easiest wins which it has been our lot to witness.

The Roman week which ended on Sunday, and was



VIEWS OF THE CYCLE PATHS AT SEATTLE, WASH.

devoted to the world's championship, was a huge success. The weather was fine, the attendance enormous and enthusiastic, and the sport was up to the surroundings. Ellegaard, Meyers and Grogna distinguished themselves most. The fight in the final between the Dutchman and Dane was worth a long journey to see. Now the one, now the other, showing to the front right up to the tape. One hundred yards from home Meyers looked like forging ahead; 50 yards further Ellegaard had half a machine the better; but in the last 10 yards Meyers, in one last desperate rush, jumped again, only succumbing by a couple of inches, amidst tremendous cheering of the feverish crowd.

Lawson met with his usual bad luck and truly it looks as if the representative of the Stars and Stripes was bound to ill fate throughout his European trip. A ridiculous incident threw him out of the race after he had created a favorable impression in the early stages. It happened thus: Arend's tire burst, causing a general fall, but Lawson and Bixio sprung up to their feet and ran for the tape, holding their machines in their hands, when an overexcited spectator interfered with the foreigner, who was leading by a couple of yards, and Bixio, making the best of the opportunity, rode up to the tape, scoring a victory. All the sportsmen present would have had the race declared void, but Bixio could not be persuaded to try conclusions again, and as no actual foul could be reproached to him, the judges were forced to let the race stand as it was.

In the amateur division little Piard turned out the best of a remarkable lot. The little Frenchman is a speedy and clever youth, and the way he disposed of his opponents in the semi-finals installed him a warm favorite for the final, which he secured, another Frenchman, Delaborde, stealing second honors from the Dane, Osla Wood.

Of course, in the mixed race for the title of world's champion between the winners of each class, Ellegaard managed to cross the line an easy first, one and a half lengths in front of the amateur.

There was a mighty silence as the men faced the starter for the final. At the shot of the pistol, Grogna moved off with the lead at a slow pace, with Ellegaard, Meyers and Bixio following him in Indian file. No change for the first two laps. At the bell the pace had considerably quickened; entering the back stretch, Bixio rushed away for all he was worth and was a length to the good before the others had realized what had happened. Ellegaard first dashed for the runaway, with Meyers after him, Grogna being manifestly caught napping. Both closed the gap with amazing rapidity and went to the front. Coming out of the last bend Ellegaard swerved slightly, causing Meyers to pull up and lose contact; but nothing daunted, the Dutchman came up again and 40 yards before the tape was just leading, but the Dane responded gamely, so much so that he was clearly one wheel to the good 10 yards from home. Now the Dutchman made an almost superhuman jump, finishing hardly the width of a tire behind the Dane after one of the grandest wheel battles ever fought. Loud and long was the cheering.

Now for yesterday's match. The neat little Buffalo track was flocked by an enormous crowd. The evening turned fine at last, and the scene with the lights scattered all over the ground was exceedingly picturesque. Of the match little need be said, except that it was a one man's affair from start to finish, and Taylor was the man. He simply played with the world's new champion as a cat with a mouse, winning both heats; where, when and how he pleased. He made a show of his opponent as he could have done of any third rater. Truly, the black fellow is a wonder. We will grant that the circumstances favored him; he feels quite at home on this tiny track, which was strange to his opponent. The latter may not have had time to quite recover from

his Roman trip and to get acclimatized to the Buffalo batters. But even making due allowance for all that, it is but fair to the colored boy to say that, when fit and well, he can show a clean pair of heels to any rider on this side. The way he flew away electrified the multitude, and in the revenge match which is to come off on Tuesday next, with Meyers as third partner, we do not believe that the two white flyers have the ghost of a chance. In the first heat Ellegaard led, according to the arrangement, and in the last 150 yards Taylor ran away, winning by as many lengths as he pleased. In the second bout, positions were interverted, the American doing the donkey work; 150 yards from home he quickened the pace and opened a gap, winning in the commonest of canters by a couple of lengths. That's all.

#### Records Made at Salt Lake City

Some record-breaking sprinting was done at the Salt Lake Palace bicycle track on Friday, June 27. Samuelson, the "pro," rode an unpaced half mile in 52 3-5. This beats Kramer's world's competition record of 54 4-5 seconds, made from scratch in a half mile handicap at Galesburg, June 15. "Jim" Champion scored 57 3-5 seconds in a half mile competition. This ties M. L. Hurley's record made at Vailsburg, June 21.

#### Champion Lowers Manhattan Beach Record

New York, June 28.—Albert Champion in the four-cornered, 20-mile motor-paced race at Manhattan Beach to-day broke all records for the track. The Parisian rode the sixth mile in 1:27 4-5 as against Michael's 1:28 for the track and 20 miles in 29:45 4-5, which lowers Elkes' figures off the beach slate. Champion led throughout and beat Freeman by 630 yards, Hall by two laps and Munroe by four laps. Freeman's time was 30:20 and Hall's 30:50. Freeman made a good fight for 10 miles. Hall and Munroe were outclassed. The little Englishman passed the Southerner in the tenth mile. The two leaders followed 10-horsepower tandems.

#### Colonel Pope, Grand Marshal

New York, June 29.—Everything points to a fitting celebration of Cycling's Silver Jubilee on July 12. Col. Albert A. Pope, who made the first American bicycle, the twenty-fifth anniversary of which is now to be celebrated, will be grand marshal of the great parade with a staff of cycling celebrities as aides. Alderman Joseph Oatman is to be the chief marshal. The prizes are to be distributed at a monster smoker that evening. All participants in the parade can buy souvenirs at a nominal figure, which will entitle the holders to a chance on a Columbia motor bicycle, to be drawn at the smoker.

#### Plans for League Meet at Atlantic City.

The committee in charge of the annual meet of the League of American Wheelmen, which is to be held at Atlantic City, July 16-19, has announced a list of events which does not, however, include many of the special features such as the midsummer ball, sailing trips and many other events, the dates for which have not as yet been decided upon. The programme as at present laid out is as follows:

Wednesday, July 16—5:30 a. m., run from Philadelphia to Atlantic City (arrive at shore at 11:30); 3 p. m., opening of headquarters at Grand Atlantic Hotel; registration and issuing of credentials; 8 p. m., middle-distance motor-paced races on Coliseum track.

Thursday, July 17—5:30 a. m., run from Philadelphia to Atlantic City (arrive at shore at 11:30); 10:30 a. m., meeting of national officers at headquarters; 4 p. m., cycle parade on Pacific avenue; 8 p. m., cycle races on the

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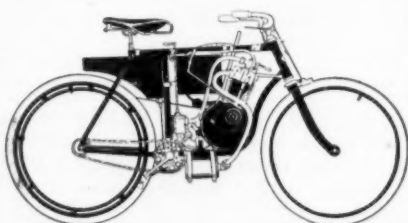
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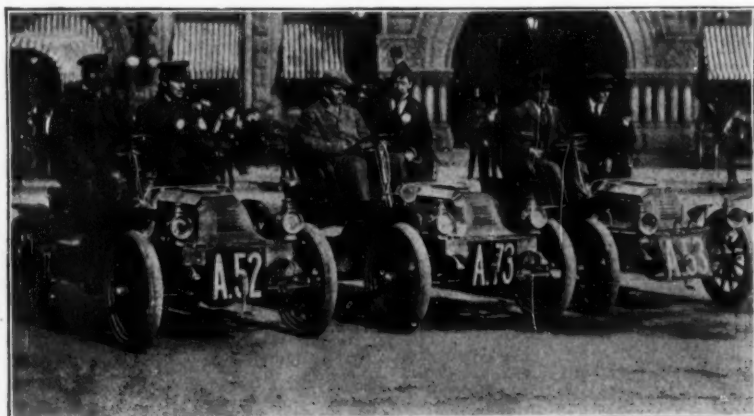
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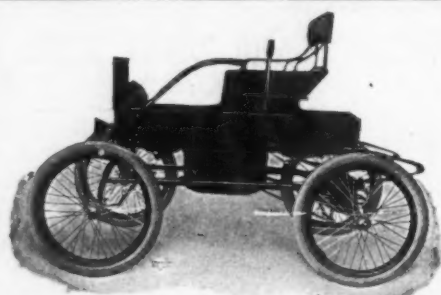
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Coliseum track; 10 p. m., pioneers' banquet at Grand Atlantic Hotel.

Friday, July 18—5:30 a. m., run from Philadelphia to Atlantic City (arrive at shore at 11:30); 3 p. m., Good Roads convention at Grand Atlantic Hotel; 8 p. m., cycle races on the Coliseum track; 10:30 p. m., all-night smoker at Inlet pavilion.

Saturday, July 19—5:30 a. m., run from Philadelphia to Atlantic City (arrive at shore at 11:30); 10 a. m., twenty-five mile handicap road race (course not yet selected); 8 p. m., N. C. A. National Circuit races on Coliseum track.

Sunday, July 20—1:30 p. m., run from Atlantic City to Philadelphia.

#### Riders in Row Over Pacing Machines.

New York, June 27.—A fight is on among the middle distance men over the horsepower of the pacing tandems. Followers of machines up to 4 horsepower refuse to ride against machines above that power. Walthour and Elkes, high power men, have given in to the little fellows and agreed to lower their machines to 4 horsepower. Sheehan, of Providence, who manages Stinson, and Kennedy, of Manhattan Beach, who has Champion, Freeman and Hall in his string, will not give in. Worcester, Springfield, Hartford, Providence and Manhattan Beach stick to the heavy brigade.

The agreement among the light powered squadron is as follows:

On the part of the racing promoters: To book no races at our tracks except where the contestants use not more than 4-horsepower motors.

On the part of the managers: To ride our men in no races in which larger than 4-horsepower motors are used.

On the part of the riders: To ride in no races against riders using larger than 4-horsepower motors.

There is a beautiful mix-up. Chairman Batchelder was at Boston this week trying to straighten things out. He failed to bring the warring factions together and will let matters take their course.

#### Topics for Good Roads Convention

The topics and speakers so far arranged for the good roads convention at Atlantic City, July 18, during the week of the L. A. W. meet, are as follows:

1. Will the benefit of through roads be commensurate with the cost?—Senator Earle, of Michigan.
2. The utility of through roads.—W. S. Crandall.
3. Value of good roads out of every city, with lantern views illustrating remarks.—H. B. Fullerton.
4. The care of improved roads.—E. A. Bond, State Engineer of New York.
5. Need of a through road—New York to Chicago.—A. H. Battey, secretary of the New York-Chicago Road Association.
6. Cheap repair of stone roads with gravel.
7. Can automobile stages supplant trolley in country districts?

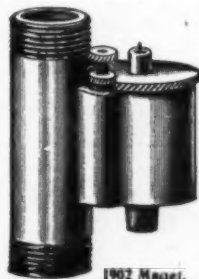
#### Linton Loses Through Mishaps.

One of the most exciting paced races ever held took place on the Friedenau track, Berlin, on June 15. There were two paced races, one of 10 kilometers, the other of one hour. Bouhours, Linton, Dickentmann, Robl, Taylor and Ryser started in the first. Ryser set such a terrific clip that no one could follow him. Linton came with a rush near the finish and finished 35 meters

behind Ryser. Then came the hour contest, in which all again started. Linton was first behind his motor and made things lively. Only Ryser and Robl were able to follow the pace. Linton lost his pace and in a minute Robl was in the lead. He soon had a lap over Ryser, who also lost his pace, and Linton. The latter had rested awhile and was again going marvelously, but not fast enough to overhaul the German. Suddenly Robl slowed up. An accident to his machine forced him to change and Linton took the lead. In a few minutes he had one-half a lap, then a lap, then a lap and a half. But Robl gained rapidly and finally about the fiftieth kilometer the Briton again lost his pace. By the time Linton had again found his pacer he had but a quarter of a lap ahead. Then the German lost his pace. Robl was not yet out and soon was riding at full speed. In a few laps he was on the trail of Linton and a neck to neck fight followed. Finally the German gained the advantage, but sat up a moment later tired out from the effort, and the Englishman gained fast. Three laps before the finish the tire of Linton's pacing machine burst and the Englishman, while escaping a fall, was without pace. This gave Robl renewed energy and he passed to the front on the last lap and won by a quarter of a lap, covering, in an hour, about 69 kilometers 500 meters, and establishing a new German record.

#### Entries for Endurance Run on Motor Bicycles

New York, June 8.—At the closing of entries to-day for the Metropole Cycling Club's motor cycle endurance run from Boston to New York, July 4 and 5, there had been twenty-eight nominations. It is expected that Monday's mail will considerably increase this number. Those already entered are: Charles A. Pearsons, Worcester, Mass.; D. R. Rice, New York; Emil Hafelfinger, New York; George M. Holley, Bradford, Pa.; George M. Hendee, Springfield, Mass.; George W. Sherman, Brooklyn; O. L. Pickard, San Francisco; G. V. Rogers, Racine, Wis.; K. H. Beeber, Racine, Wis.; W. F. Seaman, Mineola, Long Island; Henry Allmen, New York; Charles M. Burnham, Waltham, Mass.; Harold H. Brown, Boston; F. W. Tuttle, Hartford, Conn.; J. M. O'Malley, Hartford, Conn.; N. B. Bernard, Hartford, Conn.; J. R. Russell, Hartford, Conn.; A. A. Hoyt, Whitman, Mass.; A. R. Marsh, Brockton, Mass.; W. T. Marsh, Brockton, Mass.; Joseph Downey, Brockton, Mass.; H. E. Lane, Brockton, Mass.; Robert Halsall, Brockton, Mass.; G. L. Marsh, Brockton, Mass.; L. H. Roberts, Waltham, Mass.; William B. Jameson, Waltham, Mass.; E. L. Ferguson, Metropole Cycling Club, New York.



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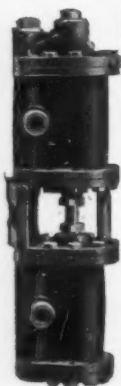
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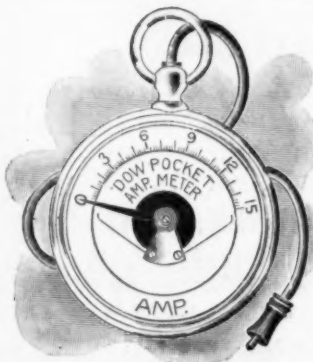
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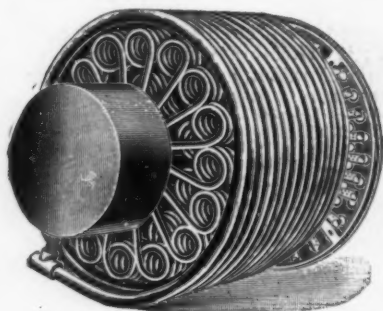
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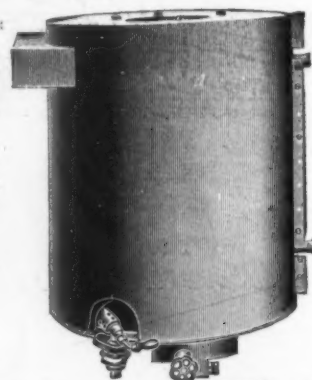
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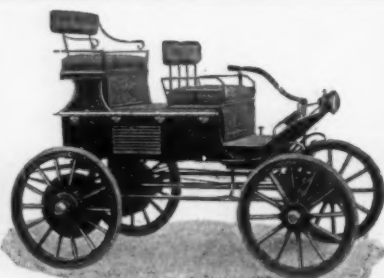
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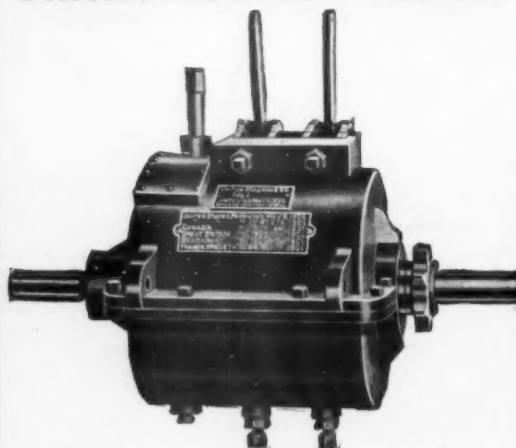
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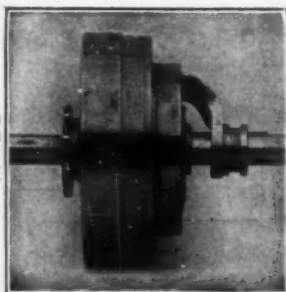


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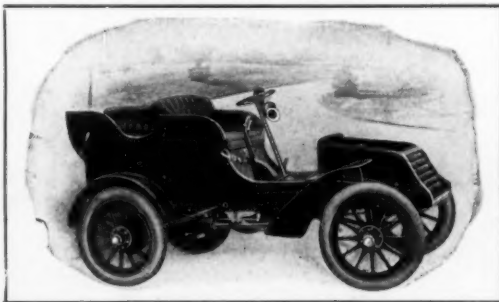
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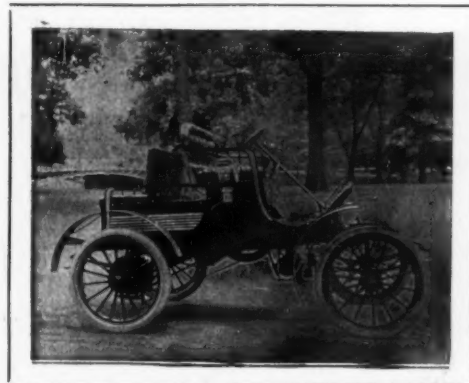
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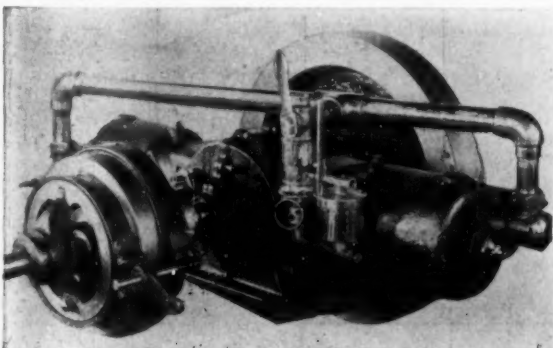
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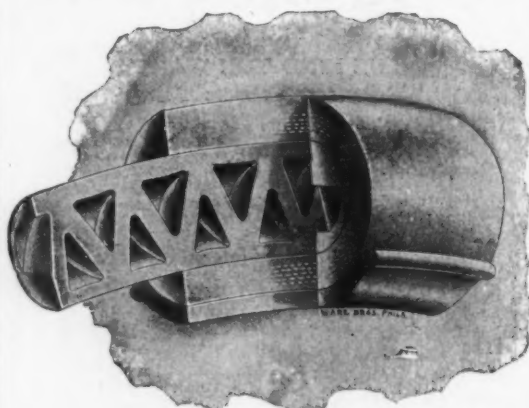
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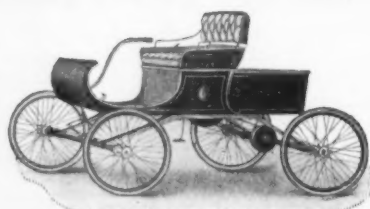
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For Furnishing, Charging and Caring  
for Exide Batteries.

CHICAGO, 264 Michigan Boulevard,  
ST. LOUIS, 197 Olive Street.  
OTHER STATIONS WILL BE ANNOUNCED LATER.

## THE ELECTRIC STORAGE BATTERY CO.

PHILADELPHIA.

PHILADELPHIA, Alleghany Ave. & 19th St.	NEW YORK, 100 Broadway.	BOSTON, 60 State St.	CHICAGO, Marquette Bldg.	BALTIMORE, Continental Trust Bldg.
CLEVELAND, New England Bldg.	ST. LOUIS, Wainwright Bldg.	SAN FRANCISCO, Nevada Block.	DETROIT, Michigan Electric Co.	HAVANA, CUBA, G. F. Greenwood, Mgr., 34 Expedrado St.

## Why is it?

A careful compilation shows  
that at least 50% of all the Autos  
made in America are fitted with

## MASON ENGINES

There must be some good reason  
for this exceptional record.  
Send a postal card for our hand-  
some illustrated Catalogue and  
you will learn the answer.

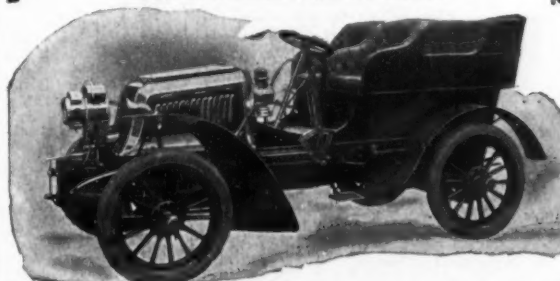
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No. 158 Summer Street, Boston

## GASMOBILES.

**American Built. Immediate Deliveries.**

Look up our record—First Prizes  
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**STANHOPE TONNEAU and WAGONETTE TYPES.**

Strong and Simple Construction.  
Three and Four Cylinders.  
Best Type of Ignition.  
Latest Style of Ignitors.  
Easy to Control; Always Reliable.  
Prices to Suit the Purchaser.  
Best Hill Climbers Built.  
We Invite Inspection.  
Send for Descriptive Bulletins.

**AUTOMOBILE COMPANY OF AMERICA**

Factory and Offices, MARION, (Jersey City,) N. J.

## ONE HUNDRED PER CENT EFFICIENCY

Long Island En-  
durance Contest,  
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utation of

**"Toledo"** Steam  
Carriages

**TWO** Standard Toledos  
**TWO** Blue Ribbon Certificates

**TWO** trips without penalized stops  
**TWO** Highest Possible Awards

**INTERNATIONAL MOTOR CAR CO., Toledo, Ohio.**

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# == A BIT OF SENSE ==

"There is no such thing as a practical indestructible Plug" are the words used by a competitor of ours who is trying to convince the public that a cheap porcelain spark plug is the equal of our **Mica Core**. Now we will ask the reader to use **A Bit of Sense** and tell us why if such is the case, this party does not come out as we do and guarantee his plugs against breaking down for three months. Simply because he can't do it and **we can**. Now use your bit of sense and compare the two materials from which these plugs are composed, **Porcelain** and **Mica** and you will at once see the reason. Heat expansion and electric current have no effect on your **Mica Core**. Thus our claim for an indestructible lug. If you want the **very best ignition outfit made in this country**, we can supply you. If you want experiments try some of the others. Write for catalogue.



**AMERICAN COIL CO., 30 NEWTON STREET, WEST SOMERVILLE, MASS.**

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HOT SPRINGS, Ark. DENVER, Colo.  
TEXAS, FLORIDA, UTAH,  
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IF YOU ARE CONTEMPLATING A TRIP, ANY PORTION OF WHICH CAN BE MADE OVER THE CHICAGO & ALTON, IT WILL PAY YOU TO WRITE TO THE UNDER SIGNED FOR RATES, MAPS, TIME-TABLES, ETC.

GEO. J. CHARLTON,  
GENERAL PASSENGER AGENT,  
CHICAGO, ILL.

## Gas Engine Igniters

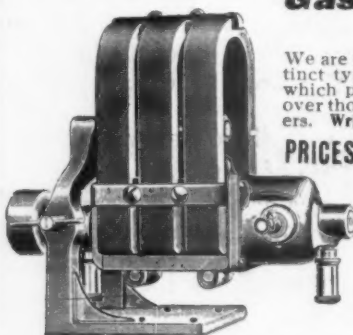
We are manufacturing three distinct types of Igniters, each of which possess many advantages over those of other manufacturers. Write us for Circulars.

PRICES \$12.00 TO \$15.00

Adapted to Marine, Automobile and Stationary Engines.

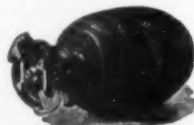
THE CARLISLE  
& PINCH CO.

224 E. Clifton Av  
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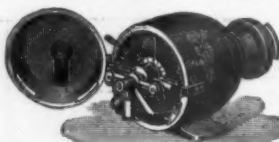


## THE APPLE IGNITERS

Mr. Automobileist, you miss half the enjoyment of operating your machine if it is not fitted with this igniter. No worry about how long your batteries will last; no jerking by missing explosions. You can make more miles with same consumption of fuel. When buying a new machine specify this igniter. Let us send you printed matter. (St. Louis stock carried by A. L. Dyke, Linmar Bldg.)



Entirely enclosed, water and dirt proof.



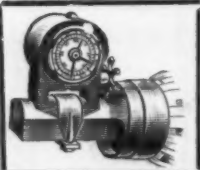
Note easy means of access.

THE DAYTON ELECTRICAL  
MANUFACTURING CO.

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DAYTON, OHIO

New York stock carried by  
Chas. E. Miller, 97 Reade St.  
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## THE DAVIS ODOMETER IS RELIABLE.

Registers the distance traveled, rings a small bell at each mile and keeps a record for 1600 miles and repeats. Built for hard work, and guaranteed in every particular.

Send for  
Descriptive Circular.

S. H. DAVIS MFG. CO., 31 to 35  
Southbury St., BOSTON, MASS.

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Is the "call" for next season. Our method equips you for this, using practically your present hub fittings. We are fitting out several large concerns now, who will come out with "Wood Spoke" Wheels early next season. For further information address

## **Standard Wheel Company,**

Manufacturer of all kinds and sizes of VEHICLE WHEELS.

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**Automatic Air Pump**  
for steam vehicles

Attaches to the rear axle and without care maintains a uniform air pressure in the fuel tank. Our booklet explains how this pump insures greater efficiency and fuel economy. Write for it.

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52 FIRST STREET, DETROIT, MICHIGAN

## **The Darling Gasoline Automobile**

PRICE  
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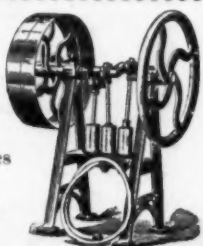
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For Users and Makers of Automobiles and Pneumatic Tired Wagons



Manufactured by  
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**TONKIN DRY PLATE BOILERS and KEROSENE BURNERS for AUTOMOBILES.**

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on Everything for Building and Repairing Autos.

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Advertisements under this head 5 cents per word first insertion; 3 cents per word each insertion thereafter. Cash with order. Express orders, postoffice orders or stamps received.

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**WANTED**—Bicycle tubing,  $\frac{3}{8}$ -in. or  $\frac{1}{2}$ -in., 26 in. long or over. C. A. Coey & Co., 5311 Cottage Grove avenue, Chicago, Ill.—23.

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**FOR SALE**—Cleveland Tricycle, \$100, cost \$350. Orient Tricycle,  $3\frac{1}{2}$  h. p. motor, water cooled head,  $2\frac{1}{2}$ -inch G. & J. tires, \$200, cost \$450; fine condition. Harry R. Geer, 1017 Pine St., St. Louis, Mo. 1

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**A**n established manufacturing plant, with more orders than it can possibly turn out with present capacity, needs a better location and more capital. Will stand close investigation. Address S., care MOTOR AGE. 1

**A**DVERTISER, having bought large machine, offers for sale French automobile, Henriot, 8 horsepower, aluminum body, detachable tonneau, tires, 90 meters, 3 speeds and reverse. Imported in May. HENRIOT, care of MOTOR AGE, Monon building, Chicago. tf

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FOR SINGLE, TANDEM, TRIPLET, QUAD and MOTOR CYCLES.

Lightest, Nearest Rust Proof, and Easiest Running Hanger in the World.

PANK CITY MFG. CO. (Inc.) :: CHICAGO

## ELECTRIC CHARGING PLANTS

For AUTOMOBILES and LAUNCHES

**"SELF STARTING"**

Write us for prices etc.

MERIAM-ABBOTT CO.,  
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## H. L. KOFFMAN MOTOR CO.

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Manufacturers of Single 4 H. P., Double 7 H. P., Four Cylinder 16 H. P. Gasoline, Automobile or Marine, 4 cycle Motors, Either Horizontal or Vertical. Fully Guaranteed. Prices the lowest. Your patronage is solicited.

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## DE DION-BOUTON MOTORS AND AUTOMOBILES

ARE THE STANDARD OF THE WORLD.  
35,000 IN USE.

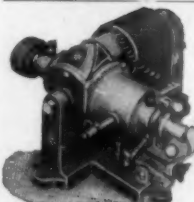
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SOLE UNITED STATES AGENT.

CLARK DETACHABLE  
AUTOMOBILE TIRES

MAKE DRIVING A PLEASURE

FIT ANY CRESCENT RIM  
EASILY REPAIRED  
CANNOT RIM CUT

OUR CATALOGUE TELLS  
CLARK TIRE CO. CHICAGO



To Owners of Gasoline Engines,  
Automobiles, Launches, Etc.  
The **Auto-Sparker**

does away entirely with all starting and running batteries, their annoyance and expense. No belt—no switch—no batteries. Can be attached to any engine now using batteries. Fully guaranteed; write for descriptive catalog.

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Has been adopted by leading makers



$3\frac{1}{4}$  Pitch,  
 $\frac{3}{8}$ -inch. Wide.

Tensile strength  
4,000 lbs.

K. FRANKLIN PETERSON,  
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was first put on the market 3 years ago for automobile work. We have been improving it constantly ever since. "Practice makes perfect." Dyke's engine has a cylinder and head all in one casting. This engine is larger and better made than the cheap material being offered at a low price. Why not pay a little more and get something first class and plenty of power. **DYKE'S FLEXIBLE REACHLESS RUNNING GEAR** is the only original gear. Get our new catalog No. 7. Over 500 illustrations.

**DYKE FLOAT FEED CARBURETER, \$15**—Only Carbureter with Throttling Lever and really capable of giving the Engine various speeds. ::

A. L. DYKE, 1402 Pine Street, ST. LOUIS, MO.

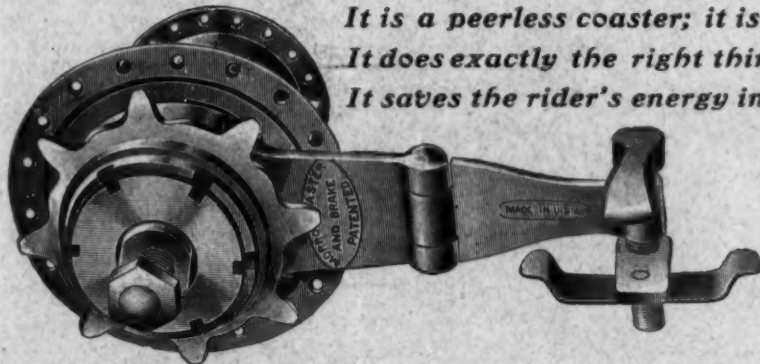
# THE SUPERIORITY OF THE MORROW

*Rests Not in One Feature, But in the Complete Whole.*

*It is a peerless coaster; it is a peerless brake.*

*It does exactly the right thing in exactly the right way.*

*It saves the rider's energy in coasting or in braking.*



As a brake it takes hold quickly but not violently; the slightest application retards the wheel's momentum and once applied, it does not require hard and continuous and energy-consuming back-peddalling pressure to keep it applied. It does not depend

on the heat generated by the friction of metal against metal for its effective operation.

**The Morrow** is the result not of a few months' limited experience but of several years' use in all parts of the world by all kinds and conditions of men. It is no experiment.

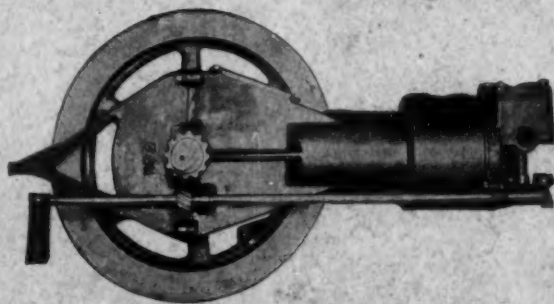
## ECLIPSE MANUFACTURING CO.,

ELMIRA, NEW YORK.

"ASK DASEY" AND GET IN LINE.

### OUR EQUIPMENTS ARE THE BEST OBTAINABLE AND ARE UP TO DATE.

**Our Prices are Right and You Get the Benefit.**



We supply the following parts, suitable for Runabout, all of which can be easily assembled at small cost. All parts are of well known make, and can be relied upon to give satisfaction.

Engine 4½x6 inches, four horse power.

Champion Transmission, two speeds forward and reverse.

Front Axle fitted with center steering device.

Rear Axle with roller spring blocks and Brown-Lipe differential.

Four springs.

Eight feet Baldwin Roller Chain, best obtainable.

Two gasoline and water tanks, seamless steel.

All accessories for engine, including Dasey

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One set wire wheels, 28x2½, and one set Pennsylvania, Fisk or Hartford Tires to fit wheels.

**ALL OF THE ABOVE FOR \$395.25**

Wood wheels at the same price. Midgley tabular wheels, \$15 extra. Same engine and equipment with No. 2 Special running Gear—reachless, with either wood or wire wheels, side or center steering, Champion transmission and chain, \$406.25. **GET CATALOGUE.**

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# *Columbia* Bicycles

Have Been the

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## Cycling's Silver Jubilee

Commemorating the twenty-fifth anniversary of the manufacture of the first Columbia, will be celebrated by a monstrous parade in New York City.

WATCH THE WHEELS IN LINE

You will find the

**Columbia, Crescent, Cleveland,  
Rambler, Monarch, Imperial  
and Tribune**

in such numbers as to eclipse all others. They are all made by

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**EASTERN SALES DEPT.,  
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**PACIFIC COAST BRANCH,  
451 Mission Street, San Francisco, Cal.**